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Heinz von Foerster (1911) graduated from the Institute of Technology, Vienna (M.S., Physics) and the University of Breslau (Ph.D, Physics). He was Secretary of the Josiah Macy, Jr. Foundation's colloquia on "Circular Causal and Feedback Mechanisms in Biological and Social Systems," the interdisciplinary meetings in the late forties and early fifties which founded the field of Cybernetics. While a Professor of Electrical Engineering at the University of Illinois at Champaign-Urbana, he established the Department of Biophysics and Physiology (1957) and the Biological Computer Laboratory (1958), an interdisciplinary research laboratory for the study of physiology, theory, technology, and the epistemology of cognitive processes. The list of his publications in the cognitive sciences and other disciplines, including family therapy, has over a hundred entries. He is now Professor Emeritus at the University of Illinois and lives in California.

Manuel De Landa (1952) is the author of two books of philosophy, War in the Age of Intelligent Machines (1991) and A Thousand Years of Nonlinear History (1997), and of many philosophical essays published in various journals. He teaches a seminar at Columbia University on "Theories of Self-Organization and Urban History," and lectures around the world on the philosophy of science and technology.

Tom Wiscombe (1970) received his B.A. Architecture from the University of California at Berkeley. He works for Coop Himmelb(l)au, and was Project Architect for the UFA Cinema Palace, Dresden. He has taught in the Masterclass of Wolf D. Prix at the Vienna University of Applied Arts.

Lebbeus Woods (1940) was educated at Purdue University (Engineering) and the University of Illinois (Architecture). He worked for Eero Saarinen and Associates (1964-68), then in private practice. Turned to theory and experimental projects since 1976. Co-founder and Scientific Director of the Research Institute for Experimental Architecture, Europe (RIEAeuropa). Has exhibited, lectured on and published his projects worldwide, and written numerous articles of criticism about architecture and architectural theory. His most recent book is Radical Reconstruction (1997). He has been a visiting Professor of Architecture at The Cooper Union, SCI-Arc, Harvard and Columbia Universities and is Academic Director of RIEAvico school of architecture in Vico Morcote, Switzerland.

Workshop Kraljevica: The workshop (27 July to 24 August 1997) was organized, sponsored and conducted by RIEAeuropa with support from the city of Kraljevica: Mayors Branko Anic and Zoran Krulic, Director of Tourism Milevoj Mandekic, Architects Vladimir Drocic, Hrvoje Giaconi and Nenad Raucher. Stipends were provided by Kultur Kontakt Wien and a grant was provided by the Open Society Foundation Zagreb. Architect Leo Modrcin (NewYork/Kraljevica) was instrumental in the workshop's conception, implementation and instruction.

Workshop Buenos Aires (La Boca): The workshop (12 November to 24 November 1997) was organized and sponsored by the Universidad Torquato di Tella (Buenos Aires), Chairman Gerardo Della Paolera, Director Jorge Francisco Liernur of the Center for Studies of Contemporary Architecture, Vice-Director Mario Goldman, and Assistant to the Director Alejandro Crispiani, and was conducted by Lebbeus Woods and Leonardo Zylberberg.

Workshop Aarhus: The workshop (13 March 1998) was organized and sponsored by Department V of the Arkitektskolen i Aarhus (Denmark), Professor Svein Tønsager, Assistant Professors Ellen Hansen, Chris Thurlbourne, Rikke Gram, and was conducted by Lebbeus Woods.

basin.architects: Ekkehard Rehfeld (1960) studied architecture at the Technical University Darmstadt, and graduated (Mag.arch) at the University of Applied Arts in Vienna. Worked for Coop Himmelblau and with Lebbeus Woods. Co-founder and Operations Director of the Research Institute for Experimental Architecture, Europe (RIEAeuropa), and Operations Director of RIEAvico school of architecture in Vico Morcote, Switzerland.

Aleksandra Wagner (1959) is a Ph.D. candidate at the CUNY Graduate Center, Department of Sociology, and a member-in-training, National Psychological Association for Psychoanalysis, New York City. She is Assistant Book Reviews Editor for The Psychohistory Review and a member of the Editorial Staff of The Psychoanalytic Review. She teaches sociology at the College of Staten Island and The New School for Social Research, and practices psychoanalytic psychotherapy in Manhattan.

Alexander Stein (1962) received his M.S.Sc.PsyA. from the New School for Social Research, New York City, and is a member-in-training at the National Psychological Association for Psychoanalysis. He is co-author, with Merle Molofsky, of the History of the Member-in-Training Organization in "The History of N.P.A.P." (1998).

11% -17%
On Constructing a Reality
Heinz von Foerster

18%-24%
Extensive Borderlines and Intensive Borderlines
Manuel De Landa

25%-31%
The Haptic Morphology of Tentacles
Tom Wiscombe

32%-38%
Inside the Borderline
Lebbeus Woods

49%-63%
Workshop Kraljevica

Participants:

Alexander Beck, Ana Radovcic, Benedikt Reifig, Boris Fiolic (Guest critic), Boris Magas (Guest critic), Brigitte Zdouc, Camilla Skaane, David Koralek, Davor Loncaric (Guest critic), Dwayne Oyler (Collaborator), Ekkehard Rehfeld (Instructor), Gabriela Seifert (Guest critic), Hrvoje Njiric (Guest critic), Iris Bohnet, Johan Roman, Lebbeus Woods (Instructor), Leo Modrcin (Instructor), Matthias Bauer, Melanie Nölken, Mika Vaisanen, Nada Buric, Olga Magas (Guest critic), Olivier Ottevaere, Per Kartvedt (Guest critic), Petar Miskovic, Sabine Gindlhuber, Sandra Stojsic, Taizo Yamamoto, Tatu Poutvaara, Tea Lim, Tea Modrcin, Tom Wiscombe (Guest critic), Tonci Cerina, Tonci Zarnic (Guest critic), Urs Gutknecht, Zeljka Pavlinovic, Zoran Bosevski (Guest critic), Zoran Jercinovic (Guest critic)

64%-76%

Workshop Buenos Aires (La Boca)

Participants:

Ana Eckell (Guest critic), Claudio Vekstein (Guest critic), Diego Maria Ramallo, Fernando Bustamante, Giorgio Peretti, Hernan Pita, Jeffrey Eyster, Juan Manuel Sujov, Lebbeus Woods (Instructor), Leonardo Zylberberg (Instructor), Luciano Parodi, Markus Huber, Mederico Faivre (Guest critic), Nick Gillock, Oliver Ganske, Pablo Beitia (Guest critic), Augusto Zanella (model photography)

77%-83%

Workshop Aarhus

Participants:

Anders Barslund Christensen, Anders Vincent Tan, Anja Bjerregaard Poulsen, Ann Pormose, Anne-Kirstine Galmar, Anne-Marie, Baek Mortensen, Bodil Mathilde Hertz Ranning, Britt Marle Klug, Elaine Chow, Erik Johannes Pedersen, Günther Dreger, Ion Albjerg Lope, Jakob Ivan Larsen, Jakob Matzen, Jan Larsen, Jorgen Olesen, Kjeld Birger Hansen, Klaus Kellermann, Klaus Olesen Gunvald, Lars Holt, Lars Krogh Hansen, Lars Plenge, Lebbeus Woods (Instructor), Line Juhl Hansen, Märten Nettelbladt, Malene Rauhe, Mette Norlem Rasmussen, Mle Ollse Kjaergaard, Niels Martin Larsen, Odd Pedersen, Rune Dybkjaer, Rune Nielsen, Sine Martinl Mikkelsen, Steen Paw Stryhn, Stig Vesterager Gothelf, Jaques Dan Uhrenholt

84%-88%

Invisible Architecture

basin.architects

89%-96%

The Trouble with Borders

Aleksandra Wagner and Alexander Stein

Heinz von Foerster

On Constructing a Reality

Make a distinction![1]

Every discovery has a painful and a joyful side: painful, while struggling with a new insight; joyful, when this insight is gained. I see the sole purpose of my presentation to minimize the pain and maximize the joy for those who have not yet made this discovery; and for those who have made it, to let them know they are not alone. Again, the discovery we all have to make for ourselves is the following postulate: the environment as we perceive it is our invention.

The popular interpretation of cognition is that our sensors give us a faithful picture of the world: the eye is like a camera, the ear like a microphone, the heat and cold receptors work like a thermometer, etc.. The fascinating thing is that it is just the other way around. Take for instance, a sensory cell on the tongue that generates the sensation of "sour" when stimulated. Note that whatever the stimulus may be, an electric current, a hot needle, a droplet of vinegar, etc., the response will be a sequence of electrical impulses of about one-tenth of a volt, whose frequency corresponds to the intensity of the stimulus, but the sensation will always be the same, "sour," independent of the physical nature of the stimulus. Take a hair-cell in the cochlea of the ear. Any stimulus, an electric current, a hot needle, a droplet of vinegar – electric impulses will be the response, and the sensation always a sound.

Since the physical nature of the stimulus - its quality - is not encoded into nervous activity, the fundamental question arises as to how does our brain conjure up the tremendous variety of this colorful world as we experience it any moment while awake, and sometimes in dreams while asleep. This is the Problem of Cognition, the search for an understanding of the cognitive processes.

The way in which a question is asked determines the way in which an answer may be found. Thus, it is upon me to paraphrase the Problem of Cognition in such a way that the conceptual tools that are today at our disposal may become fully effective. To this end, let me paraphrase (→) 'cognition' in the following way:

COGNITION → computing a reality

With this I anticipate a storm of objections. First, I appear to replace one unknown term, 'cognition', with three other terms, two of which, 'computing' and 'reality', are even more opaque than the definiendum, and with the only definite word used here being the indefinite article 'a'. Moreover, the use of the indefinite article implies the ridiculous notion of other realities besides 'the' only and one reality, our cherished Environment; and finally I seem to suggest by 'computing' that everything from my wristwatch to the galaxies is merely computed, and is not 'there'. Outrageous!

Let me take up these objections one by one. First, let me remove the semantic sting that the term 'computing' may cause in a group of women and men who are more inclined toward the humanities than to the sciences. Harmlessly enough, computing (from com-putare) literally means to reflect, to contemplate (putare) things in concert (com-), without any explicit reference to numerical quantities. Indeed, I shall use this term in this most general sense to indicate any operation, not necessarily numerical, that transforms, modifies, re-arranges, or orders observed physical entities, 'objects', or their representations, 'symbols'. For instance, the simple permutation of the three letters A, B, C, in which the last letter now goes first: C, A, B, I shall call a computation. Similarly, the operation that obliterates the commas between the letters: CAB; and likewise the semantic transformation that changes CAB into TAXI, and so on.

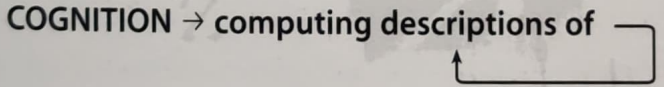
I shall now turn to the defense of my use of the indefinite article in the noun-phrase 'a reality'. I could, of course, shield myself behind the logical argument that solving for the general case, implied by the 'a', I would also have solved any specific case denoted by the use of 'the'. However, my motivation lies much deeper. In fact there is a deep hiatus that separates the 'The' school of thought from the 'A' school of thought in which, respectively, the distinct concepts of 'confirmation' and 'correlation' are taken as explanatory paradigms for perceptions. The 'The-school': my sensation of touch is confirmation for my visual sensation that here is a table. The 'A-school': my sensation of touch in correlation with my visual sensation generate an experience which I may describe by 'here is a table'.

I am rejecting the 'The-school' on epistemological grounds, for in this way the whole Problem of Cognition is safely put away in one's own cognitive blind spot; even its absence can no longer be seen.

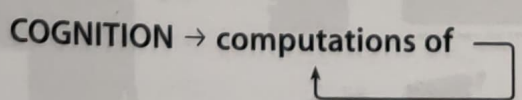
Finally, one might rightly argue that cognitive processes do not compute wristwatches or galaxies, but compute at best descriptions of such entities. Thus I am yielding to this objection and replace my former paraphrase by:

COGNITION → computing descriptions of a reality

Neurophysiologists, however, will tell us that a description computed on one level of neural activity, say, a projected image on the retina, will be operated again on higher levels, and so on, whereby some motor activity may be taken by an observer as a 'terminal description', for instance the utterance: 'here is a table'[2]. Consequently, I have to modify this paraphrase again to read:



where the arrow turning back suggests this infinite recursion of descriptions of descriptions... etc. This formulation has the advantage that one unknown, namely 'reality', is successfully eliminated. Reality appears only implicitly as the operation of recursive descriptions. Moreover, we may take advantage of the notion that computing descriptions is nothing else but computations. Hence:



In summary, I propose to interpret cognitive processes as never-ending recursive processes of computation....

Form computation: take the two-layered periodic network of Fig. 1, the upper layer representing receptor cells sensitive to, say, 'light'. Each of these receptors is connected to three neurons in the lower (computing) layer, with two excitatory synapses on the neuron directly below (symbolized by buttons attached to the body), and one inhibitory synapse (symbolized by a loop around the tip), attached to each of the two neurons, one to the left and one to the right. It is clear that the computing layer will not respond to uniform light projected on the receptive layer, for the two excitatory stimuli on a computer neuron will be exactly compensated by the inhibitory signals coming from the two lateral receptors. This zero-response will respond under strongest and weakest stimulation as well as to slow or rapid changes of the illumination. The legitimate question may now arise, 'Why this complex apparatus that doesn't do a thing?'

Consider now Fig. 2, in which an obstruction is placed in the light path illuminating the layer of receptors. Again, all neurons of the lower layer will remain silent, except at one edge of the obstruction, for it receives two excitatory signals from the receptor above, but only one inhibitory signal from the sensor on the left. We now understand the important function of this net, for it computes any spatial variation in the visual field of this 'eye', independent of intensity of the ambient light and its temporal variations, and independent of place and extension of the obstruction.

Although all operations involved in this computation are elementary, the organization of these operations allows us to appreciate a principle of considerable depth, namely, that of the computation of abstracts, here the notion of 'edge'.

Figure 1

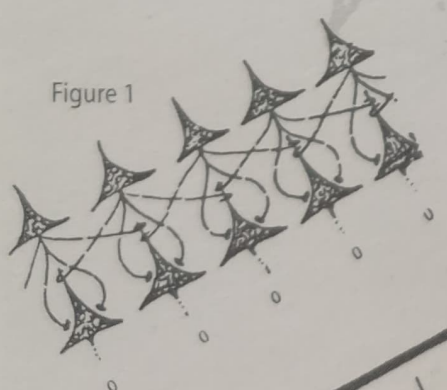


Figure 2

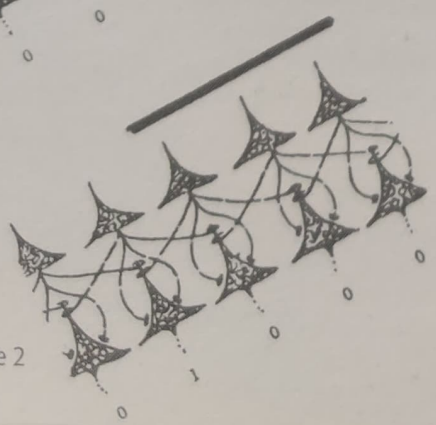
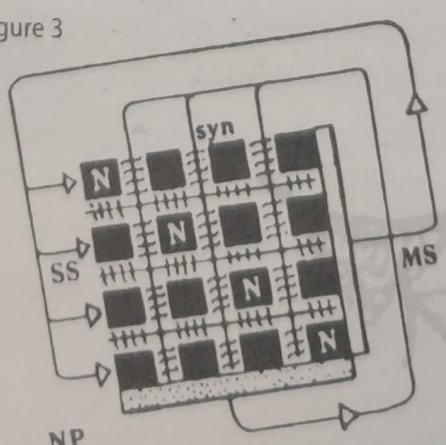


Figure 3



I hope that this simple example is sufficient to suggest to you the possibility of generalizing this possibility in the sense that 'computation' can be seen on at least two levels, namely, (a) the operation actually performed, and (b) the organization of these operations represented here by the structure of the nerve net. In computer language (a) would be associated with operations, but (b) with the 'program'. As we shall see later, in 'biological computers' the programs themselves may be computed on. This leads to the concept of 'meta-programs', 'meta-meta-programs'...etc. This is, of course, the consequence of the inherent recursive organization of those systems.

Closure. By attending to all the neurophysiological pieces, we may have lost the perspective that sees an organism as a functioning whole. In Fig. 3, I have put these pieces together in their functional context. The black squares labeled N represent bundles of neurons that synapse with neurons of other bundles over the (synaptic) gaps indicated by the spaces between the squares. The sensory surface (SS) of the organism is to the left, its motor surface to the right, and the neuropituitary (NP), the strongly innervated mastergland that regulates the entire endocrinal system, is the stippled lower boundary of the array of squares. Nerve impulses traveling horizontally (from left to right) ultimately act on the motor surface (MS) whose changes (movements) are immediately sensed by the sensory surface (SS), as suggested by the 'external' pathway following the arrows. Impulses traveling vertically (from top to bottom) stimulate the neuropituitary (NP) whose activity releases steroids into the synaptic gaps, as suggested by the wiggly terminations of the lines following the arrow, and thus modify the modus operandi of all synaptic structures, hence the modus operandi of the system as a whole. Note the double closure of the system which not only operates on what it 'sees', but on its operators as well. In order to make this two-fold closure even more apparent, I propose to wrap the diagram of Fig. 3 around its two axes of circular symmetry until the artificial boundaries disappear and the torus (doughnut) as in Fig. 4 is obtained. Here, the 'synaptic gap' between the motor and sensory surfaces is the striated meridian in the front center, the neuropituitary, the stippled equator. This, I submit, is the functional organization of a living organism in a (dough)nut shell. (Fig. 4).

The computations within this torus are subject to a non-trivial constraint, and this is expressed in the Postulate of Cognitive Homeostasis: The nervous system is organized (or organizes itself) so that it computes a stable reality.

This postulate stipulates 'autonomy', i.e., 'self-regulation' for every living organism. Since the semantic structure of nouns with prefix 'self-' becomes more transparent when this prefix is replaced by the noun, 'autonomy' becomes synonymous with 'regulation of regulation'. This is precisely what the doubly closed, recursively computing torus does: it regulates its own regulation.

Significance. It may be strange in times like these to stipulate autonomy, for autonomy implies responsibility: if I am the only one who decides how I act, then I am responsible for my action. Since the rule of the most popular game played today is to make someone else responsible for my acts - the name of the game is 'heteronomy' - my arguments make, I understand, a most unpopular claim. One way of sweeping it under the rug is to dismiss it as just another attempt to rescue 'solipsism', the view that this world is only in my imagination and the only reality is the imagining 'I'. Indeed, that was precisely what I was saying before, but I was talking only about a single organism. The situation is quite different when there are two....

According to the Principle of Relativity which rejects a hypothesis when it does not hold for two instances together, although it holds for each instance separately (Earthlings and Venusians may be consistent in claiming to be the center of the universe, but their claims fall to pieces if they should ever get together), the solipsistic claim falls to pieces when, besides me, I invent another autonomous organism. However, it should be noted that since the Principle of Relativity is not a logical necessity, nor is it a proposition that can be proven to be either true or false, the crucial point to be recognized here is that I am free to choose either to adopt this principle or reject it. If I reject it, I am the center of the universe, my reality is my dreams and my nightmares, my language is monologue, and my logic mono-logic. If I adopt it, neither I nor the other can be the center of the universe. As in the heliocentric system, there must be a third that is the central reference. It is the relation between Thou and I, and this relation is IDENTITY:

Reality = Community

What are the consequences of all this in ethics and aesthetics?
The Ethical Imperative: Act always so as to increase the number of choices.
The Aesthetical Imperative: If you desire to see, learn how to act.

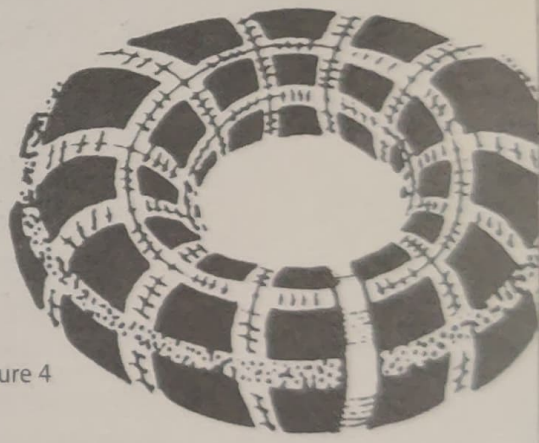


Figure 4

[1] Brown, G. S. Laws of Form, New York: Julian Press, 1972, p. 3.

[2] Marturana, H. R. "Neurophysiology of Cognition", in P. Garvin. Cognition: A Multiple View. New York: Spartan Press, 1970, pp. 3-23.

Note: This is an abridged version of the original paper, prepared by the editors, and printed here with the kind permission of the author.

Manuel De Landa

Extensive Borderlines and Intensive Borderlines



As biological organisms and as social agents we live our lives within spatio-temporal zones bounded by natural and artificial extensive boundaries, that is, within zones that extend in space or time up to a limit marked by a borderline. Whether we are talking about the frontiers of a country, a city or a neighborhood, or those defining the start of an era for society or a period of our lives, these boundaries are part of what defines our identity. There are, however, other well-defined zones which we inhabit, too, but which are less familiar than those bounded by extensive borderlines: these are zones of intensity, not only those zones of temperature that define different ecosystems (from hot jungles to cold tundras), but also the zones of high pressure explored by deep-sea divers, or the zones of low gravity explored by astronauts. These other zones are not bounded by spatio-temporal frontiers but by intensive borderlines, critical points of temperature, pressure, gravity, density, tension, connectivity, points which define abrupt transitions in the state of the creatures inhabiting those zones. Although the weather maps that have become common in most news shows have made intensive borderlines very tangible, indeed graphic, entities (zones of high and low pressure, cold or warm fronts defining sharp temperature transitions), the fact remains that most people, and in particular, most philosophers, have hardly thought about the questions raised by the distinction between the extensive and the intensive.

An exception is the philosophy of Gilles Deleuze, where the distinction between borderlines in extensity and critical thresholds in intensity is one of the two key distinctions grounding his entire metaphysical world view. Roughly, the distinction between extensive and intensive magnitudes can be defined like this: while extensive quantities (such as volume or area) are additive, intensive quantities are not. If one adds two equal volumes of water, one gets twice the amount of water. But if one adds two quantities of water at forty five degrees of temperature, one does not get a body of water at ninety degrees of temperature. Indeed, the resulting temperature would stay the same. For two intensive quantities to produce a change, there must be a difference, or gradient, in their degree of intensity. And the change so produced by a gradient of temperature or pressure, density, or velocity, won't be a simple addition, but the emergence of a spontaneous flow or movement which will tend to cancel the difference in intensity, and restore equilibrium. In what is probably his most important book, Difference and Repetition, Deleuze writes: "Difference is not diversity. Diversity is given, but difference is that by which the given is given...Difference is not phenomenon but the nuomenon closest to the phenomenon...Every phenomenon refers to an inequality by which it is conditioned... Everything which happens and everything which appears is correlated with orders of differences: differences of level, temperature, pressure, tension, potential, difference of intensity." [1]

It is traditional since Kant to distinguish between the world as it appears to us humans, that is, the world of phenomena or appearances, and the world as it exists by itself, regardless of whether there is a human observer to interact with it. This world "in itself" is referred to as "nuomena." A large number of contemporary thinkers, particularly those that call themselves "postmodernists," do not believe in nuomena. For them the world is socially constructed, hence, all it contains is linguistically-defined phenomena. The world is amorphous, and we cut it out into forms using language. Nothing could be further from Deleuzian thought than this postmodern linguistic relativism. Deleuze is indeed a realist philosopher, one who not only believes in the autonomous existence of actual forms (the forms of rocks, plants, animals and so on) but in the existence of virtual forms. The distinction between the virtual and the actual is the second key to Deleuzian philosophy, equal in importance to that between the extensive and the intensive, and I will return to it in a moment. But before I do, there are a few more details to add to the question of differences in intensity.

First of all, for Deleuze differences in intensity are what gives rise to forms and their boundaries in extensity. To take an example I often use, the spherical form of a soap bubble emerges out of the interactions among its constituent molecules as these are constrained energetically to "seek" the point at which surface tension is minimized. The extensive boundaries of the bubble emerge spontaneously as a difference in intensity (surface tension, in this case) is canceled, or at least, minimized. Intensity is at the genesis of extensity, and this much follows from the basic principles of thermodynamics. Yet, in the page following the quote above, Deleuze argues that, despite this important insight, nineteenth century thermodynamics cannot provide the foundation he needs for his philosophy. Why? Because that branch of physics became obsessed with the final equilibrium forms (e.g. the spherical soap bubble), at the expense of the difference-driven morphogenetic process which gives rise to those forms. Yet, even before it emerges as an actual form, the spherical shape of the bubble is "already there" as a virtual form, guiding, or serving as a target for, the process. Emphasizing the final equilibrium state conceals the role of virtual forms (or as they are now called, "attractors") in the genesis of extensive boundaries.

This shortcoming of nineteenth century thermodynamics, to overlook the role of intensity differences in morphogenesis, to concentrate on the equilibrium form that emerges only once the original difference has been canceled, has today been repaired in the latest version of this branch of physics, appropriately labeled "far-from-equilibrium thermodynamics." Although Deleuze does not explicitly refer to this new branch of science, it is clear that far-from-equilibrium thermodynamics meets all the objections which he raises against its nineteenth century counterpart. In particular, the systems studied in this new discipline are continuously traversed by a strong flow of energy and matter, a flow which does not allow the differences in intensity to be canceled, that is, a flow that maintains these differences and keeps them from canceling themselves out. It is only in these far-from-equilibrium conditions that the full variety of immanent topological forms appears (steady state, cyclic or chaotic attractors). It is only in this zone of intensity that difference-driven morphogenesis comes into its own, and that matter becomes an active material agent, one which does not need form to come and impose itself from the outside. In short, only in this zone of intensity can we witness the birth of extensity and its defining borderlines.

As noted above, the distinction between the "actual" and the "virtual" is key to Deleuzian thinking. To define it he compares it with an older, related opposition, that between the "possible" and the "real." The latter distinction between assumes a set of predefined forms (or essences) which acquire physical reality as material forms that resemble them. As Deleuze argues, from the morphogenetic point of view realizing a possibility does not add anything to the predefined form, except reality. The distinction between the virtual and the actual, on the other hand, does not involve resemblance of any kind. In our example above, a topological point, a minima of surface tension, acts as an attractor for a process that yields a geometrical sphere. Moreover, the same topological form, the same minimal point, can guide the processes that generates many other geometrical forms. For example, if instead of molecules of soap we have the atomic components of an ordinary salt crystal, the form that emerges from minimizing energy (bonding energy in this case) is a cube. Other materials, in turn, yield yet other forms. Deleuze calls this capacity of virtual forms to generate an open set of actual forms, "divergent actualization":

"Actualization breaks with resemblance as a process no less than it does with identity as a principle. In this sense, actualization or differentiation is always a genuine creation...For a potential or virtual object to be actualized is to create divergent lines which correspond to - without resembling - a virtual multiplicity. The virtual possess the reality of a task to be performed or a problem to be solved."[2]

The last remark can be also illustrated by our simple examples. In this case the "problem" (for the population of molecules) is to find this minimal point of energy, a problem solved differently by the molecules in soap bubbles (which collectively minimize surface tension) and by the molecules in crystalline structures (which collectively minimize bonding energy). Other virtual forms define yet other problems. For example, once we add an intense flow of energy through a system, we can have emergent oscillatory behavior. A virtual closed loop (technically called "limit cycle" or "periodic attractor") will force the solution to an energetic problem to take the form of an oscillation in space or time. In other words, the several possible physical instantiations of this solution will all display isomorphic behavior, an endogenously generated tendency to oscillate in a stable way. Whether one is dealing with a socio-technological structure (such as a radio transmitter or a radar machine), a biological one (a cyclic metabolism), or a physical one (a convection cell in the atmosphere), it is one and the same virtual form that is involved in their different oscillating behavior. And Deleuze goes on to define even more complex forms of "divergent actualization," those involving successive waves of attractors (instead of a single one) defining even more complex problems (like, creating a fully-developed organism out of a fertilized egg) whose solution involves equally complex spatio-temporal dynamisms:

"How does actualization occur in things themselves?...Beneath the actual qualities and extensities [of things themselves] there are spatio-temporal dynamisms. They must be surveyed in every domain, even though they are ordinarily hidden by the constituted qualities and extensities. Embryology shows that the division of the egg is secondary in relation to more significant morphogenetic movements: the augmentation of free surfaces, stretching of cellular layers, invagination by folding, regional displacement of groups. A whole kinematics of the egg appears which implies a dynamic." [3]

Other examples could be given detailing the morphogenesis of geological, biological and even social forms and structures, and their defining borders. But I believe the following conclusion is already justified: all the extensive borderlines which define our space and time, from the membranes of soap bubbles to the skin of our bodies, are generated through the interplay of intensive borderlines, critical points of intensity defining the virtual forms available to a material and energetic system within a particular intensive zone. Yet, despite playing this pivotal role, intensity differences (and the critical values of those differences) become "hidden" under the extensities they give rise to. The role of the philosopher and the artist is precisely to reveal this other world, these intensive nuomena behind the extensive phenomena.

To make this deep, hidden genesis come to the surface, whether to the surface of the canvas via color intensities, or the surface of a musical composition via acoustic intensities, is indeed one way of defining the role of the artist. But philosophers, too, need to deal with intensities, intense beliefs and desires, intense pains and pleasures, and beyond that, internal tensions within conceptual systems whose resolution gives rise to new ideas. We must all learn to creatively inhabit and explore intensive zones and their borderlines, as much as the more familiar extensive ones, and to see in the former the creative force behind the genesis of the latter. That is, in short, the outline for a future art and philosophy, but also the key to the appreciation of successful arts and philosophies of the past. We are certainly not the first generation to discover intensities, but we may be the first one to be called to revive the forgotten craft of living creatively within intensive zones.

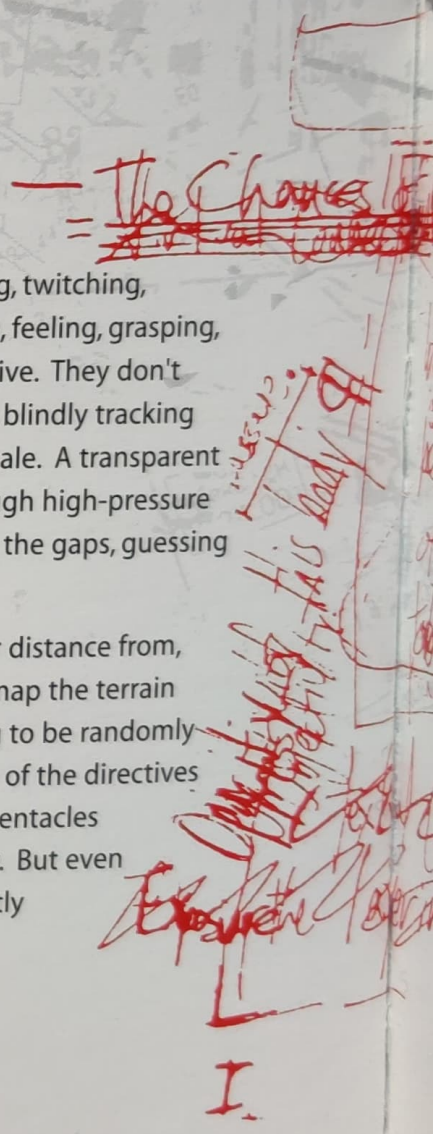
[1] Deleuze, Gilles. Difference and Repetition. New York: Columbia University Press, 1994, p. 222.

[2] ibid, p. 212

[3] ibid, p. 214.

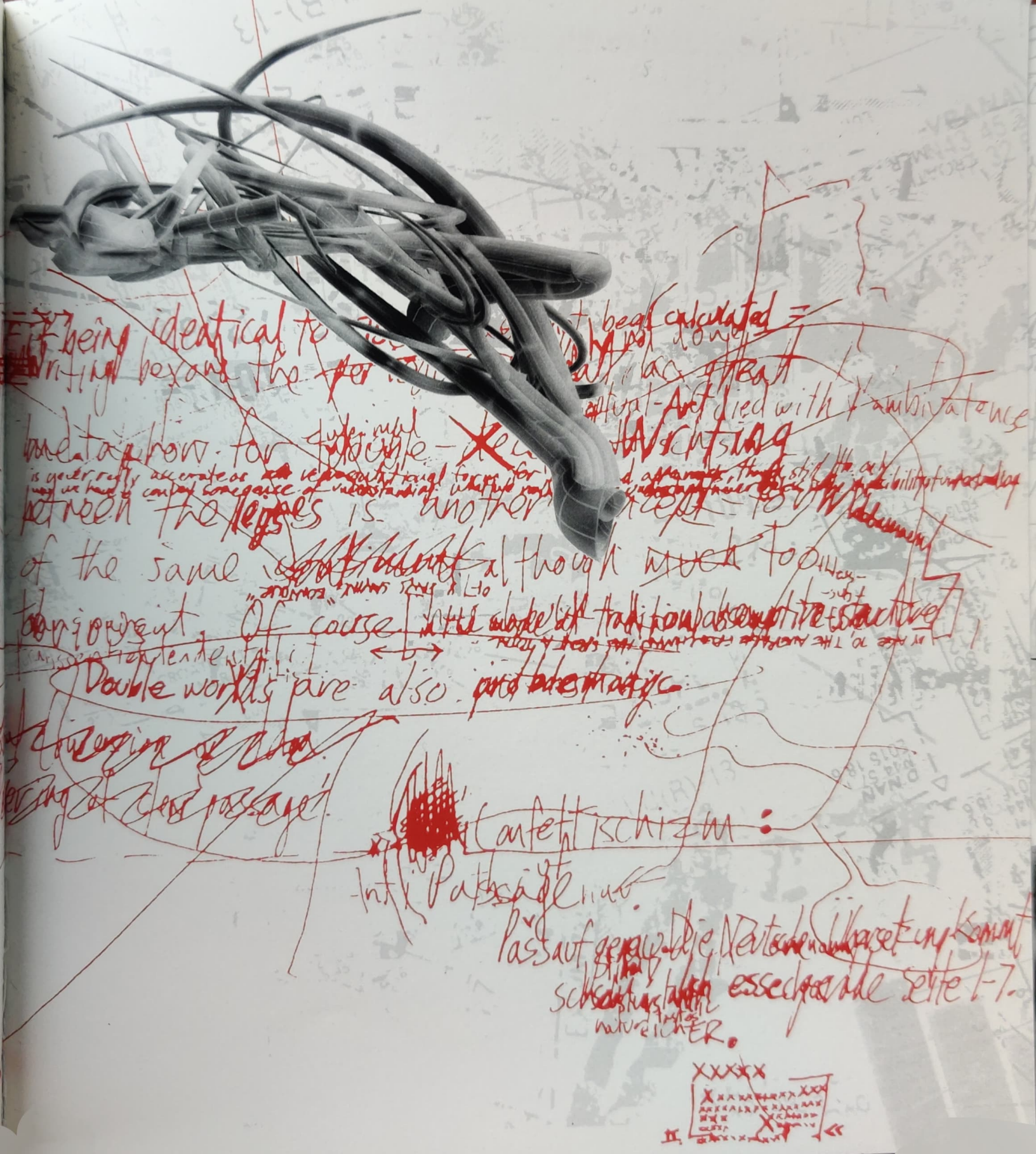
Tom Wiscombe

The Haptic Morphology of Tentacles



Tentacles are always moving, changing direction, twisting, flowing, twitching, frictionless, striated, anti-gravitational, elusive, searching, wanting, feeling, grasping, entrapping. They are magnitudes of intensity, unconscious but alive. They don't think, but are thought always in motion: A desiring sea anemone, blindly tracking the lines of flight of passing organisms, most out of its reach or scale. A transparent squid, simultaneously leading and being led by its tentacles through high-pressure liquids. A python slowly suffocating a rabbit, tensing, modulating the gaps, guessing its every counter-movement, tensing again.

Tentacles constantly resituate themselves tactically based on their distance from, and desire for, other bodies or tentacles within their range. They map the terrain of the invisible, anticipating all possible encounters while seeming to be randomly writhing. In their monadic state, it is unclear if tentacles are aware of the directives of adjacent tentacles. At the moment of encounter, nevertheless, tentacles self-organize and try to intertwine or merge with the foreign body. But even in this state of focus, tentacles cannot help but engage in apparently unnecessary, decadent behavior. This is because they are already anticipating the contingencies of their next encounter.

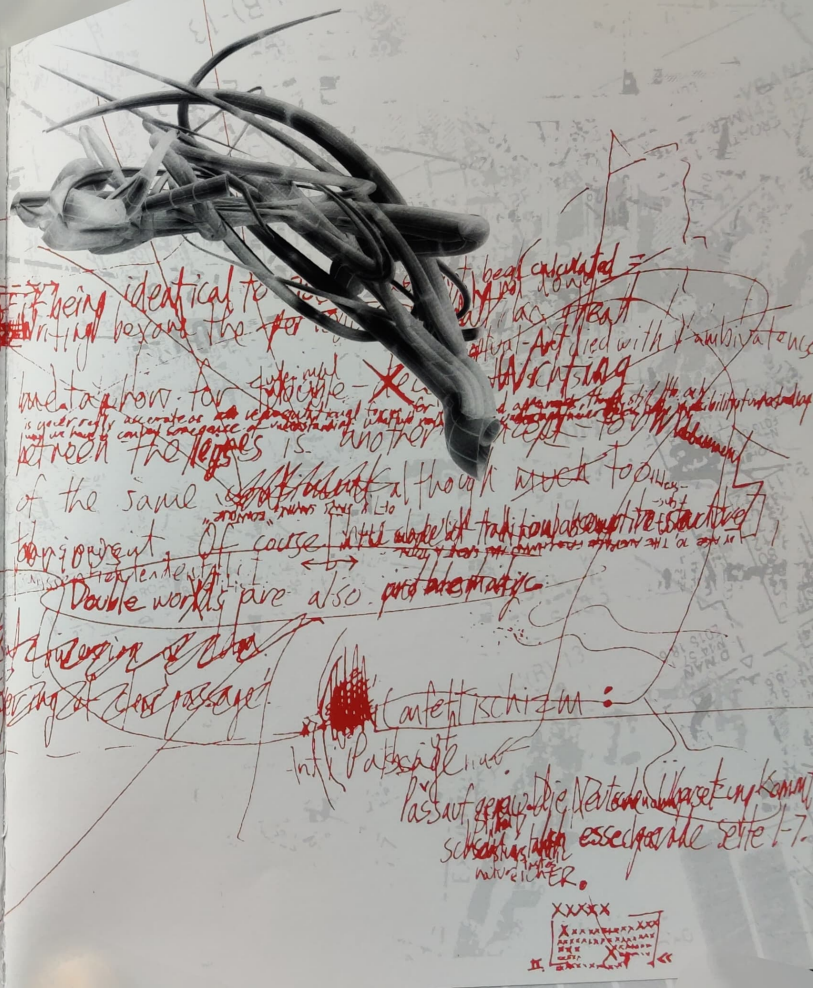

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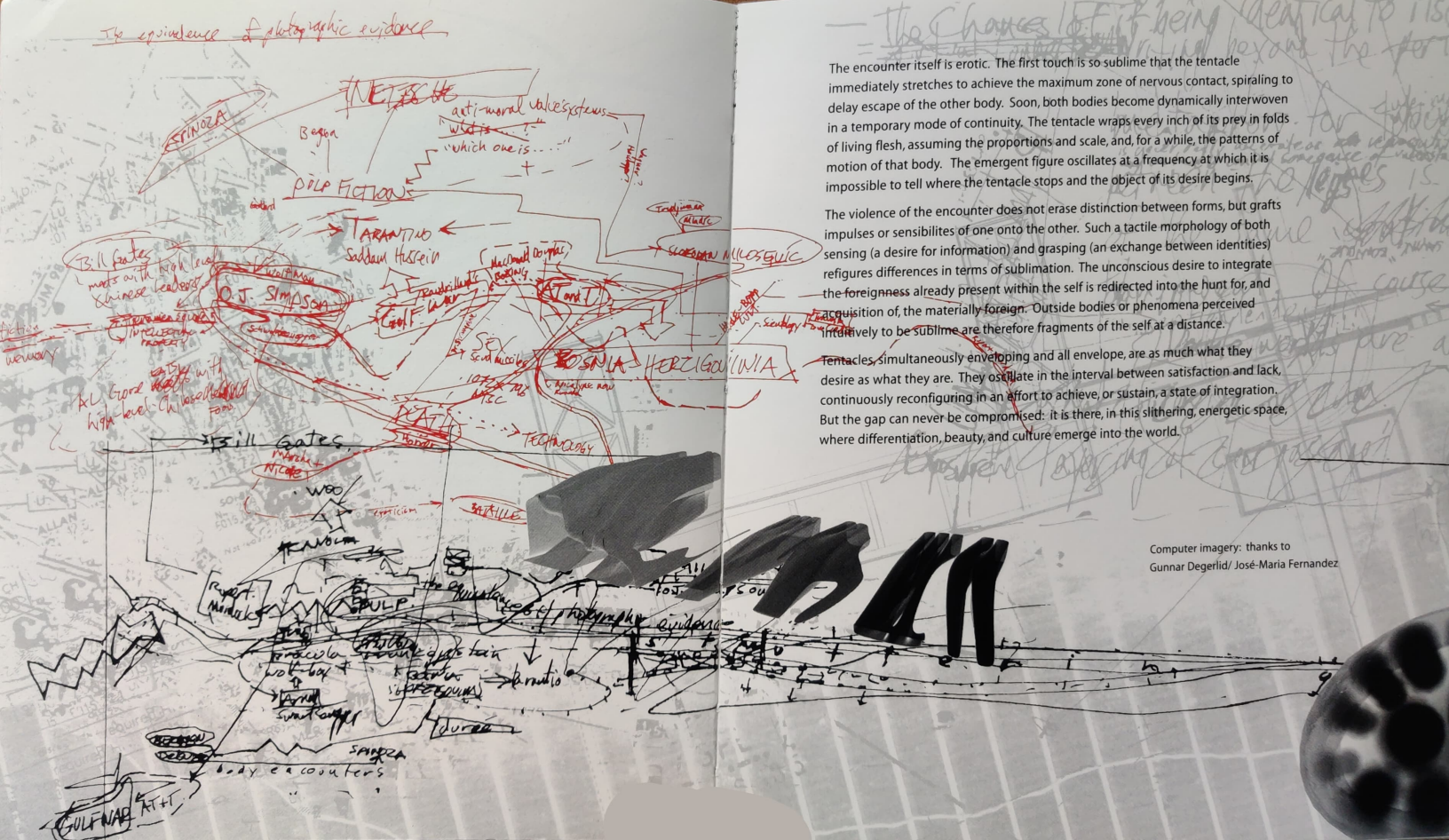
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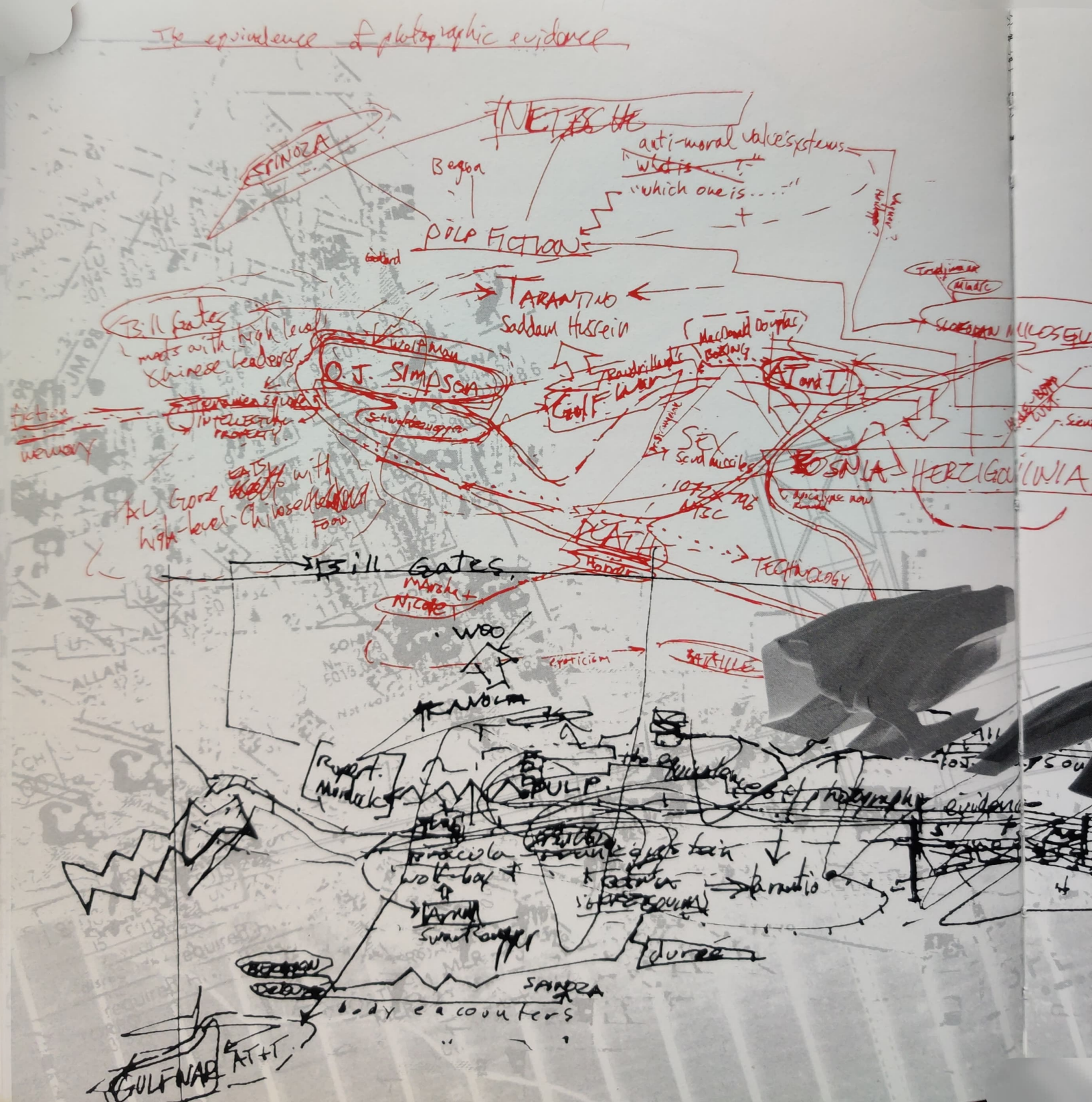
The encounter itself is erotic. The first touch is so sublime that the tentacle immediately stretches to achieve the maximum zone of nervous contact, spiraling to delay escape of the other body. Soon, both bodies become dynamically interwoven in a temporary mode of continuity. The tentacle wraps every inch of its prey in folds of living flesh, assuming the proportions and scale, and, for a while, the patterns of motion of that body. The emergent figure oscillates at a frequency at which it is impossible to tell where the tentacle stops and the object of its desire begins.

The violence of the encounter does not erase distinction between forms, but grafts impulses or sensibilites of one onto the other. Such a tactile morphology of both sensing (a desire for information) and grasping (an exchange between identities) refigures differences in terms of sublimation. The unconscious desire to integrate the foreignness already present within the self is redirected into the hunt for, and acquisition of, the materially foreign. Outside bodies or phenomena perceived intuitively to be sublime are therefore fragments of the self at a distance.

Tentacles, simultaneously enveloping and all envelope, are as much what they desire as what they are. They oscillate in the interval between satisfaction and lack, continuously reconfiguring in an effort to achieve, or sustain, a state of integration. But the gap can never be compromised: it is there, in this slithering, energetic space, where differentiation, beauty, and culture emerge into the world.



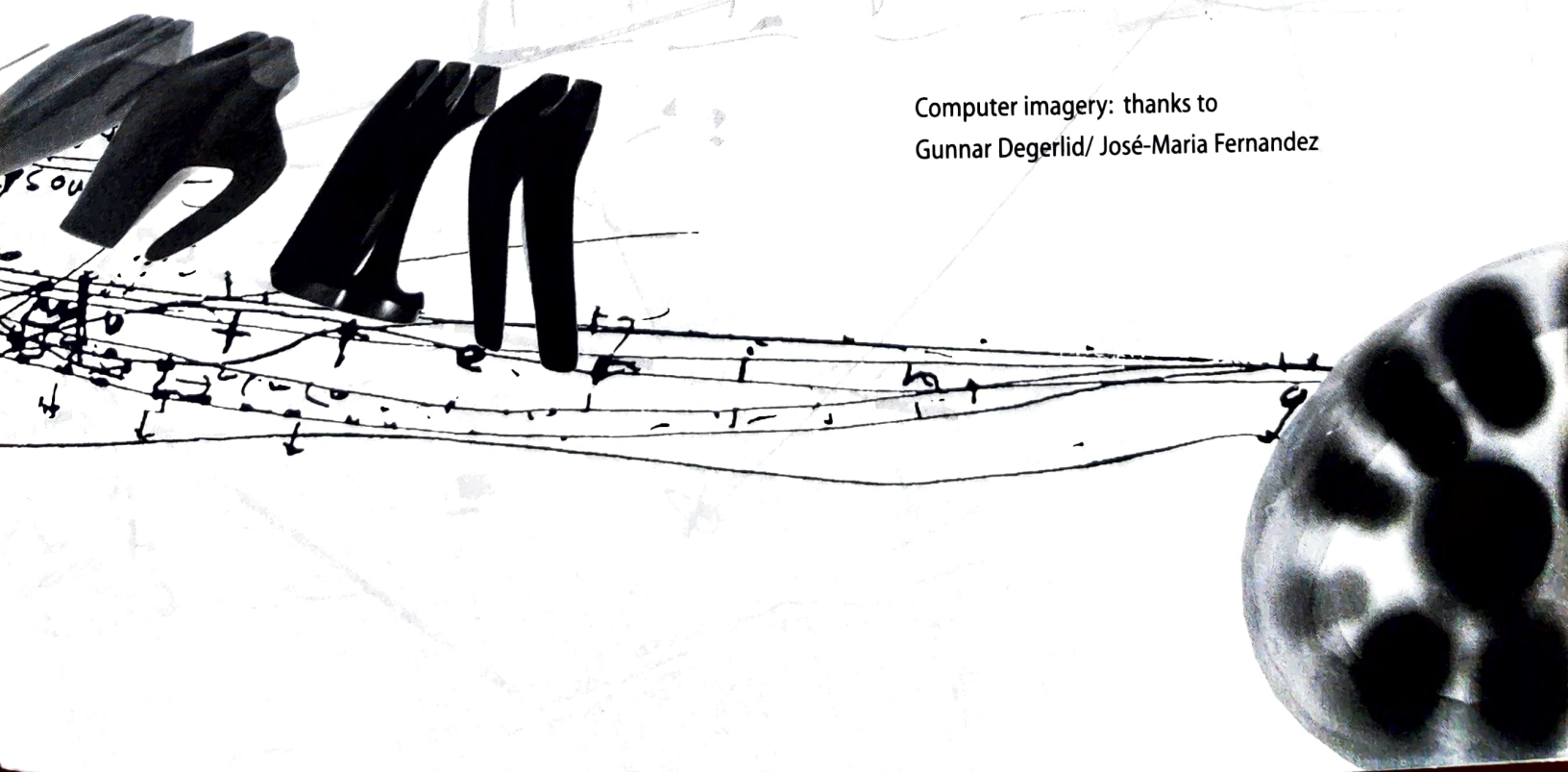
Computer imagery: thanks to
Gunnar Degerlid/ José-Maria Fernandez


The equivalence of photographic evidence
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"which one is..."
PULP FICTION
TARANTINO
Saddam Hussein
Bill Gates
meets with high level Chinese leaders
O.J. SIMPSON
Schwarzenegger
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AL Gore
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high-level Chinese
FOOD
SEX
Scud missiles
BOSNIA
HERZEGOVINA
DEATH
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TECHNOLOGY
Bill Gates
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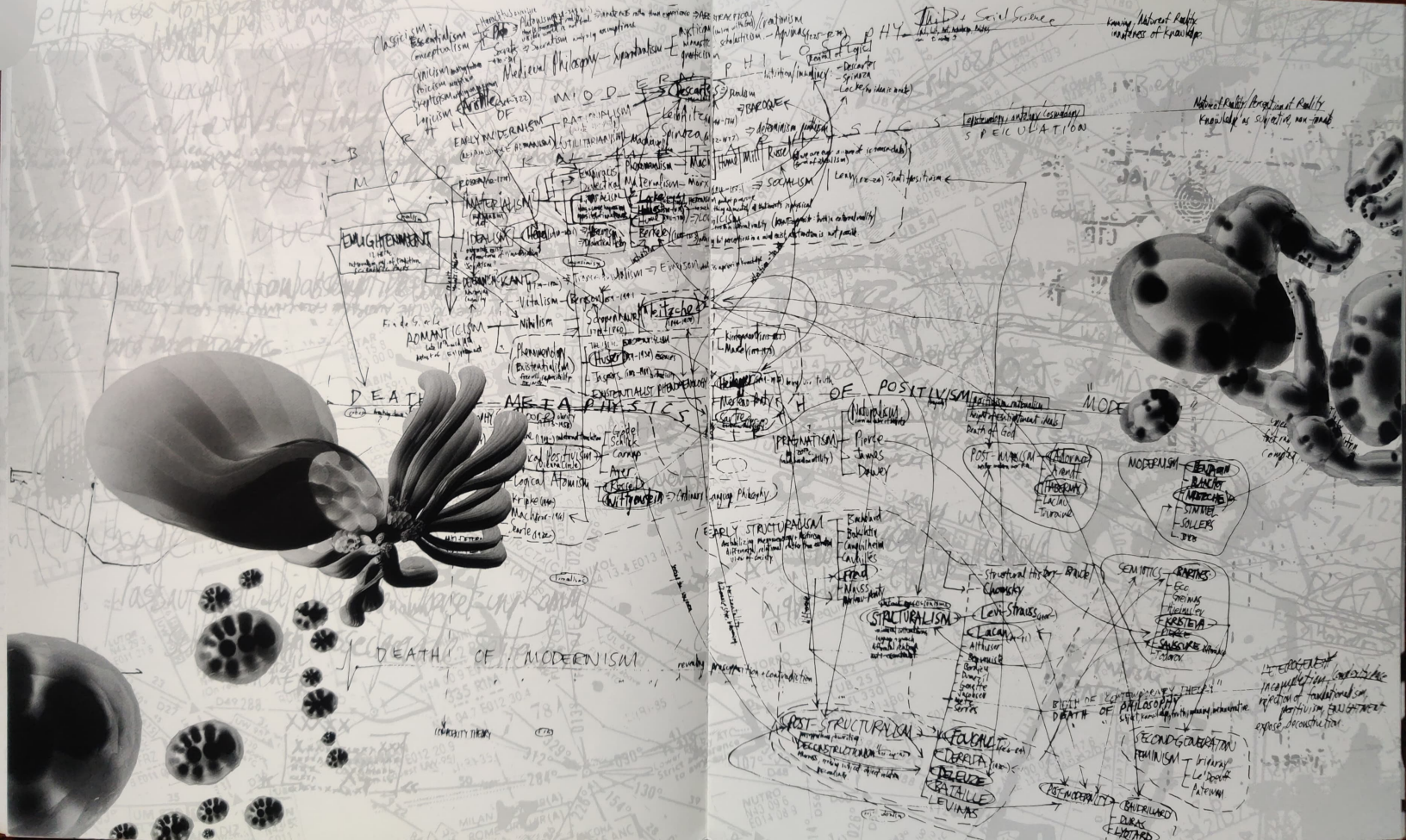
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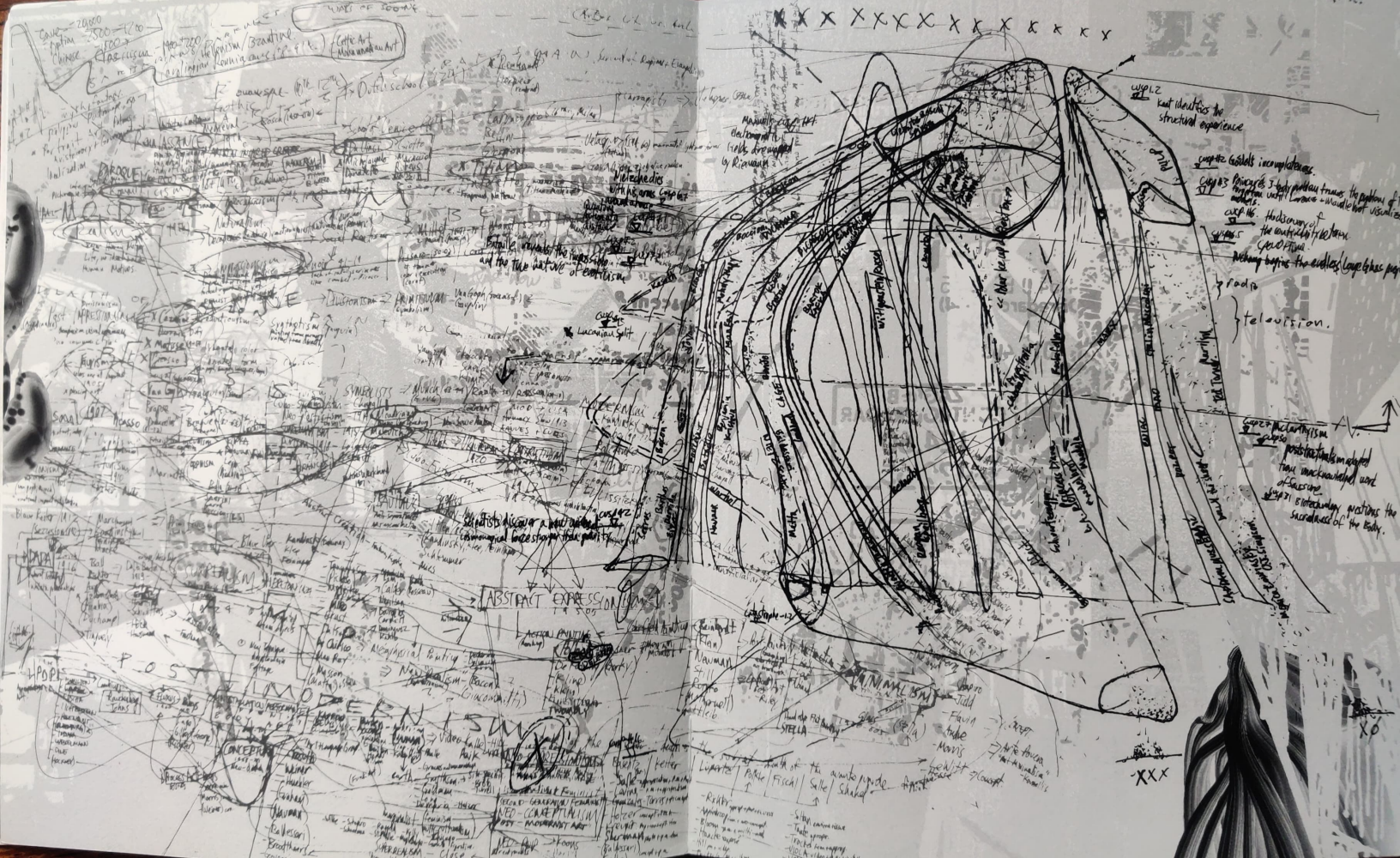
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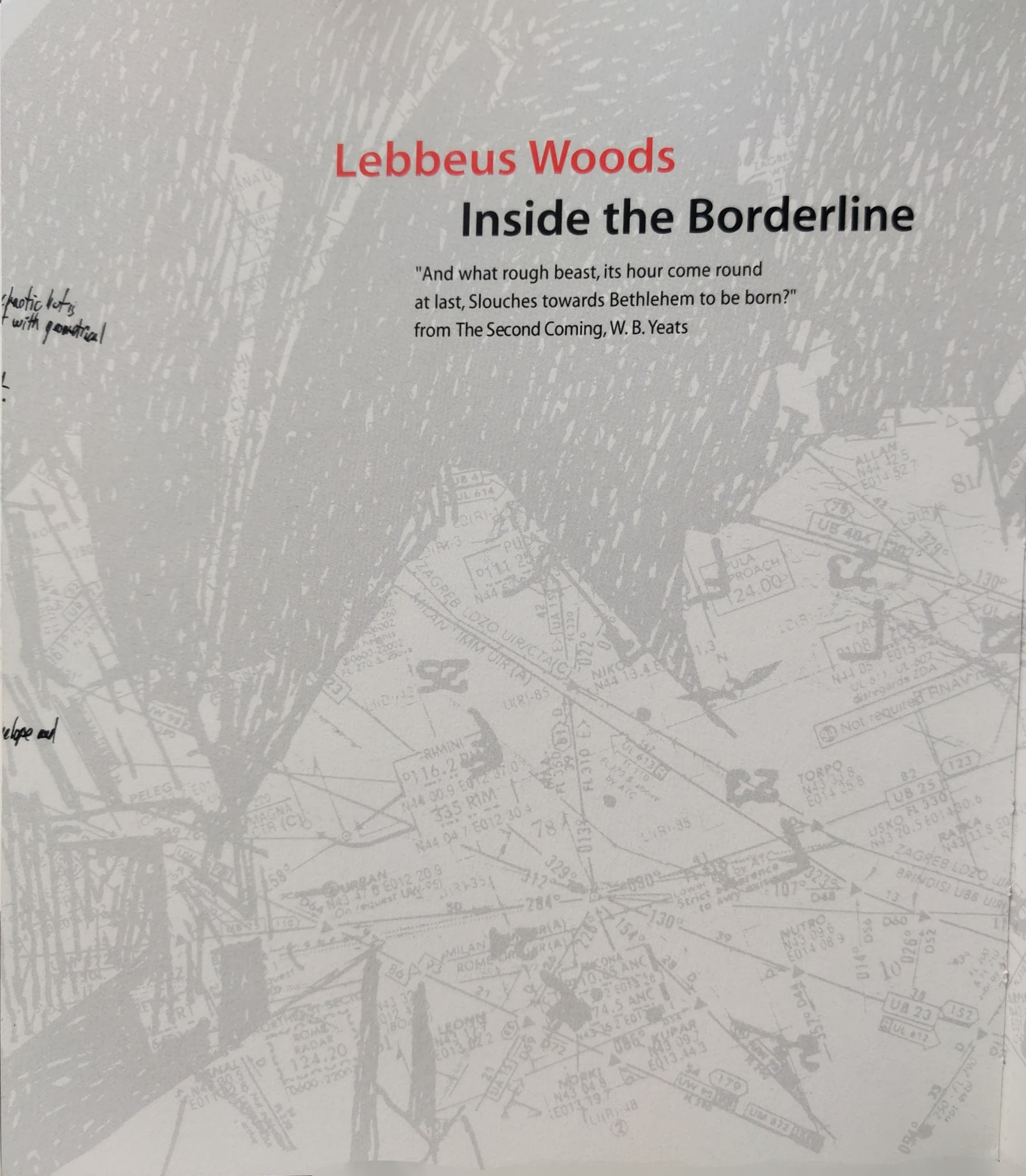

DEATH OF MODERNISM
DEATH OF POSITIVISM
METAPHYSICS
EMLIGHTENMENT
STRUCTURALISM
POST STRUCTURALISM
POST-MODERNISM
MODERNISM
EARLY STRUCTURALISM
SEMIOTICS
PHENOMENOLOGY
EXISTENTIALISM
PRAGMATISM
LOGICAL POSITIVISM
LOGICAL ATOMISM
SECOND GENERATION FEMINISM
SPECULATION


MODERN
POST-MODERNISM
ABSTRACT EXPRESSIONISM
MINIMALISM
CONCEPTUAL
television.

Lebbeus Woods

Inside the Borderline

"And what rough beast, its hour come round
at last, Slouches towards Bethlehem to be born?"
from The Second Coming, W. B. Yeats



There is no longer a rational explanation. Reason has awakened to its limitations and, embracing the reality of the paradox, is compelled to transform itself. The natural space for this transformation is the borderline, where systems of all kinds collide and abrade, as the world breaks up, not into chaos, but rather into new patterns of order.

One of the paradoxes to reckon with today is the economic and cultural unification of the planet. Globalization is a process well underway, but far from complete. If it is ever completed, it could result in a homogeneous geography into which all borders would simply vanish. But, like V. I. Lenin's 'withering away of the state', it will most likely remain a utopian ideal for those who welcome its advent, and an always lurking danger for those who do not. The paradox in the situation exists in the lingering threshold or boundary condition created on the one hand by the drive towards unification and, on the other hand, by the inevitable delay of its actual arrival. In this state of ambivalence, knowledge and the activity it inspires shift uneasily in an indefinite 'between' zone, giving new significance to the idea of 'borderline'.

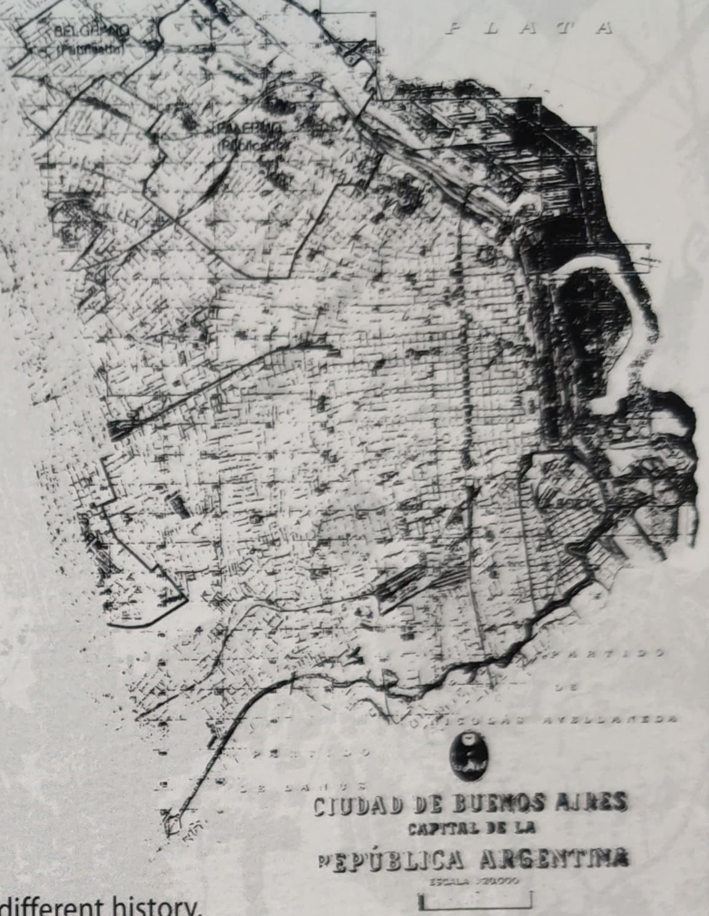
Once borderlines separated only hostile and contradictory systems arraying themselves competitively: known against unknown, civilization against its implicitly uncivilized opposite. Today, because of the effects of new technologies, cultural differences are rapidly disappearing. The present attempts to unify European states promises to dissolve national borders, eventually. However, borders remain, and may actually become stronger, though not necessarily along the old national lines. The lack of certain knowledge in a world of unpredictable change creates borderlines today that exist as distinct, often extensive spaces in vast gray zones of transition. These borderlines no longer separate certainties, but become spaces where uncertainties meet, interact, fuse or are repelled.

Two examples illuminate to some degree the complex interiors of the new borderlines. The first is the town of Kraljevica, on Croatia's Adriatic coast, just south of the major port city of Rijeka. The second is the urban district of Buenos Aires called La Boca, on the Riochuelo as it flows into the delta of the Rio de la Plata.

Kraljevica is a town at the foot of large, rock-strewn mountains plunging dramatically down to the sea. Of its three and a half thousand people, many are, or were once, employed by the local ship-building industry. Since the general decline of ship-building in Europe, and particularly in this region, people have had to turn to other trades or businesses. Kraljevica is not at all a poor town, economically speaking, because its people are energetic and entrepreneurial, but also because the Croatian government, which became independent from Yugoslavia in 1991, still provides some basic subsidies. However, with that government's rapid moves towards the privatization of formerly state-owned industries, including ship-building and tourism, the time is approaching when Kraljevica will have to become fully independent economically, according to the present 'free-market' rules. Given its relative newness in the game defined by them, it occupies an economic reality dense with uncertainties. Along with these, today, come almost inscrutable political questions about transitions between once radically opposed systems and regimes that cannot be answered by existing formulas, but only by trial-and-error efforts, mostly on the local level. In the meantime, a few tourists stop by, launch or keep their pleasure boats in the small harbor, opposite the active floating dry-dock of the shipyard. The Almis Hotel, still run by a state tourist agency, offers a De Chiricoesque terrace facing the sea. But, unlike surreal moments of its past, the clocks in Kraljevica are running faster every day.







Half a world away, on a different continent with a radically different history, La Boca occupies the southern limit of the prosperous, spatially dynamic and orderly metropolis of Buenos Aires, one of the world's most charismatic cities. Unlike many of its South American sisters, which are marred by stark contrasts between rich and poor, and mired in corrupt politics and planning, Buenos Aires - population about nine million people - has managed to stand apart and in many ways well above its continent's standards. Even the marginal district of La Boca, a working-class neighborhood with a world-class futbol club and a famously intense tango night-life, seems other than the economically depressed borderline that it is. Composed mostly of two and three story houses built long ago of corrugated steel brought in by British engineers during the period of their expansion into the region, La Boca today is an urban transformation on the verge of happening. An elegant new museum, the Proa Fundación, shows art on the decaying banks of the Riochuelo, just a few dozen meters from defunct industrial buildings and across the river from an abominable slum. Yet the slum, or 'shanty-town', which speaks of economic realities fast invading the economic prospects of Buenos Aires as a whole, in a very real sense, threatens the 'gentrification' process tentatively working in La Boca. It is clear that the situation - economically, politically, socially - could go either way: into normalization, or into the anarchy of impoverishment. Not only the river space, but the entire district teeters now on an edge, and a borderline, yet to be delineated in social terms, or spatially, architecturally defined.



Both Kraljevica and La Boca incorporate land and water and the boundaries separating them. Both contain the remnants, to differing degrees, of once vital shipping activities and infrastructures: in Kraljevica, a semi-active shipyard surviving on ship repairs and refurbishments; in La Boca, a totally inactive dockyard, littered with abandoned, rusting, half-sunken boats. Both sites suffer from varying degrees of pollution that impinges heavily on the quality of living. In Kraljevica, noise pollution from the shipyard, which works twenty-four hours a day on the opposite side of the narrow harbor at the center of the town, and also water and air pollution from an enormous oil refinery in plain sight on the other side of the bay; in La Boca, the narrow Riochuelo is badly polluted from industrial waste upstream and fouls the air with its rank perfume. Both sites are hoping to attract tourism as a source of income not only to finance the reclamation of their environments, but also to bring higher and more stable incomes for their economically suffering residents; but the prospects for dramatically increasing tourism are slim.

Both Kraljevica and La Boca are problematic new cultural, economic and political zones, borderline spaces of the new type in which many paradoxical conditions meet and interact, in ways that are unattractive to anyone requiring a rational, that is, predictable, stability. They are experimental zones, where problems already present in the surrounding territories, but concealed by appearances of normality[1], are confronted and engaged.

What architecture can contribute to the engagement of individuals and communities with the problems encountered in Kraljevica, La Boca and other borderline conditions of this new type depends on the role architecture chooses to assume in the process. If it takes the traditional role of codifying conditions already resolved by other means, in the constructed form of conventional building typologies and programs of inhabitation, then it can only thwart the emergence of vital new modes of culture. Because architecture is allied with centers of economic and political power, which are concerned first and foremost with extending, or at least maintaining, their hegemony, and denying or suppressing any signs of its instability, this is architecture's most likely role. In La Boca, an urban planning proposal, created when Buenos Aires was making a bid to become the site of the Olympic Games in 2004, scraped clean of buildings and indigenous activity the banks of the Riocheulo to make way for a bland pedestrian esplanade to be populated, presumably, by hordes of harried, hurried tourists. With the same disregard for the creative potential of existing conditions, city officials in Kraljevica are attempting to plan the rehabilitation of their harbor in terms of attracting tourism that could only come with the highly improbable abandonment of the shipyard and oil refinery. While Kraljevica is not in economic parity with Buenos Aires, the same misplaced mentality leads, with architecture, in the form of conventional building proposals, trotting dutifully behind.

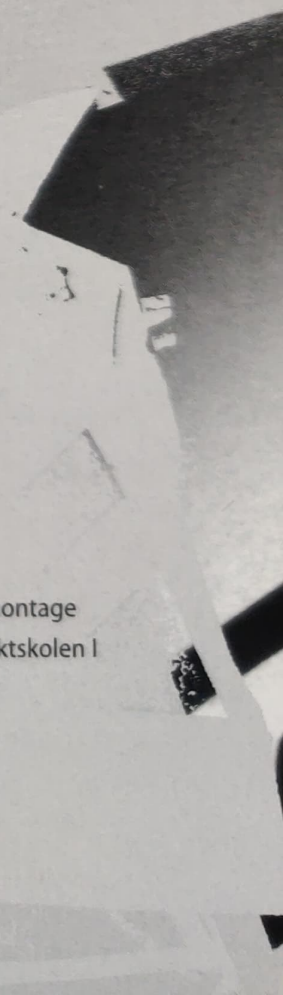


On the other hand, if architecture searches for new modes and new typologies from the same experimental potential inherent in the difficult borderline conditions themselves, then it can become an instrument for the cultural transformations struggling today to occur.

In Kraljevica, this might mean the proposal of architectural projects that convert the infrastructure of the now half-idle shipyard, and the skills of its half-idle workers, to new uses such as the construction of new types of buildings, ones that float or amphibiously move from sea to land; or re-frame the harbor as a laboratory for the study and development of noise-control technology; or the present ruin of the Frankopan Castle to an international center for the research of borderline conditions; or the gradual transformation of the oil refinery into a new ecological zone, synthesizing the industrial and the natural; or the interaction of the town and its industry into a new urban-ecological zone, synthesizing in new types of structures and spaces the activities of working and living; or (a nod to tourism and local pride) a conversion of the shipyard to an active 'museum' of steel-working skills. Architecture is in the unique position to materialize and concretize the ephemeral, but only if architecture itself is willing to "go under," to exert its presence with force and without compromise, and then - without a whimper - to pass away, to make way for other, unpredictable architectures to follow.

In La Boca, this same approach might mean the proposal of architectures and projects which recycle the abandoned structures and materials now merely littering the landscape into spaces whose forms and methods of building provoke new ways of inhabiting constructed space. It might mean directly employing the abandoned shipyard infrastructure - cranes, rail lines, warehouses, bridges, the river itself - as sites with new and experimental purposes: housing for truck-drivers who wait for days beside a few still-active barracas for some goods to haul; for a floating community of river-cleaners, who make houses of their floating pollution-eating machines, and a community from their ensemble; a 'museum of sunken boats', which reveals the long-hidden spaces they have created under the river's surface; a 'museum of raised boats', which turns them fully in space, revealing their sensuous resurrected forms; new crossings of the Riochuelo which link the troubled, but still legal side of the river with its feared and renegade mirror-twin, the lawless shantytown in the ex-officio Provincia de Buenos Aires which, until now, has been successfully ignored, but still does not go away. The dialogical 'others' flourish on the borderline, feeding off its ambiguities and uncertainties. With architecture as an active instrument and not merely an acquiescent echo, their time is at hand.

The nature of dialogue itself, and the rules by which it is conducted, construct the interior architecture of the borderline. For within the borderline are other borderlines. There are as many of them as there are individualities seeking to assert the differences that make them 'other' and yet impel most of them to negotiate together some form of common ground, that which constitutes a community and a culture. The rules of dialogical negotiation within the borderline are necessarily more spontaneous, therefore more inventive, than those employing social stereotypes governing the stability-seeking centers of established cultures[2]. What is constructed inside the borderlines is not a catalogue of new monuments to stability for a culture which does not need them, but something much more modest and at the same time more ambitious: the tectonic and spatial elements of a new landscape. As the borderlines themselves already suggest, it is a complex landscape in which fragments retain their identity and yet meld, through negotiation and chance, into a new form of continuity.

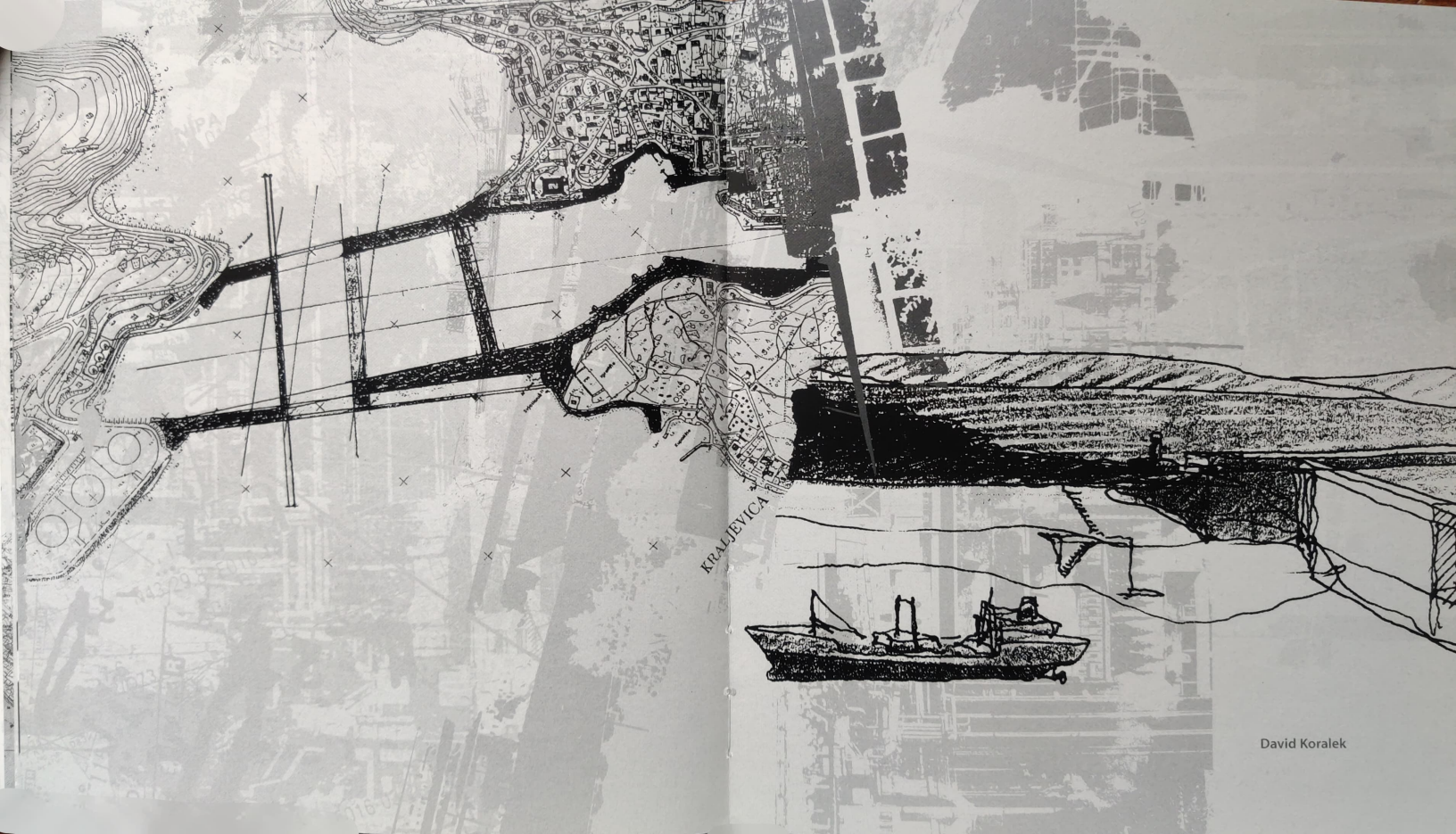


[1] see author's essay, "Walls", in Radical Reconstruction. New York: Princeton Architectural Press, 1997, p. 13.

[2] an experiment in the spontaneous construction of a borderline condition-in the form of a group drawing/montage was made with students of Department V at the Arkitektskolen I Aarhus, on 26 March, 1998 (see Title page for details).

Workshop Kraljevica

Zeljka Pavlinovic



David Koralek

Eagle Air 228 Cessna Citation, 19 Aug. 1997.

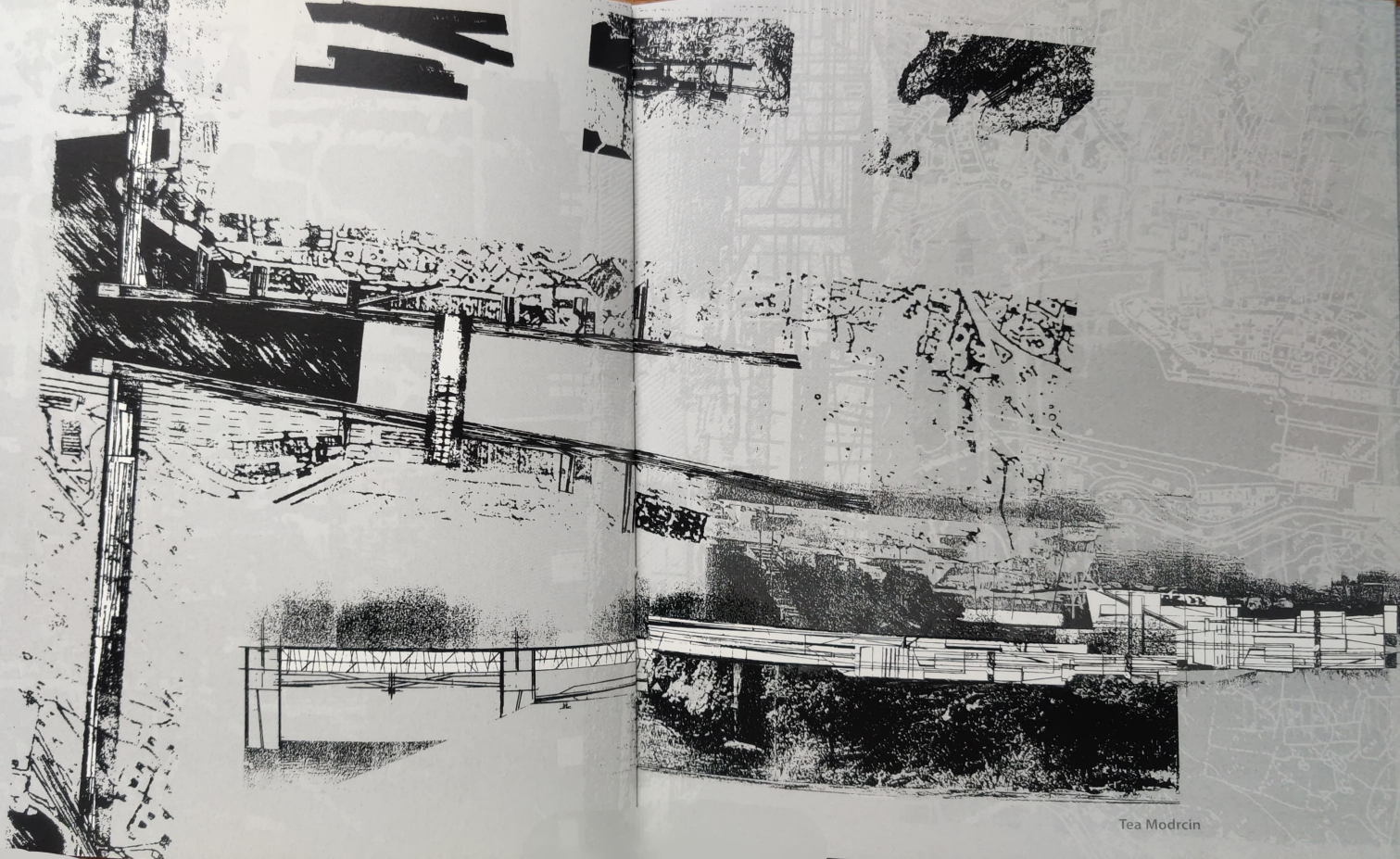
Captain Kohler from Bern to Rijeka via WIL SARME UA9 CANNE UA9 SRN UB4 ILB BR2 RJ...

Takeoff into the spectacular mountain-spaces of the Alps, due south. Turbulence lets you feel the power of these mountains, the material and also immaterial presence of nature becomes very physically apparent.

Beyond the Alps, I force myself back from a trance... my mind has been wandering, flying off alone with the borrowed body of a bird. I am on board this little jet en route to Kraljevica, a small town on the north Dalmatian coast, where I will attend the final review of an international architecture workshop. The pilot points out Rijeka just ahead, below. Not far to go, the jet is rapidly losing height, banks steeply now. Captain Kohler had promised me an extra turn above the site where I am headed. Now I can make out the Bay of Bakar, a huge space, an enormous room almost, with walls of steep mountain slopes... on the far side of its northern peninsula an oil refinery, miles of tubing, machinery, pollution. The large storage cylinders look empty, most of them, the floating lids all the way down.... Just opposite this industrial seaside monster, just across the mouth of the bay, Kraljevica. I recognize the castle, Frankopan, 15th century, they say...it's scale dominates the village with the little port... then opposite the harbor with tiny boats, a floating dry dock, huge, cranes, a shipyard. The cargo ships being repaired there are larger than the castle, several of them... the entire town would easily fit into their holds. What a contrast, what a shift in scale.... Really low now, I can make out peoples faces. There is a seaside spa just behind the shipyard, kids playing on the beach, a string of little villas along the coast.... A span of water below now, land again, touchdown. The airstrip is on an island. My friend and colleague Ekkehard Rehfeld picks me up... we drive back across the enormous bridge connecting the island of Krk with the mainland...

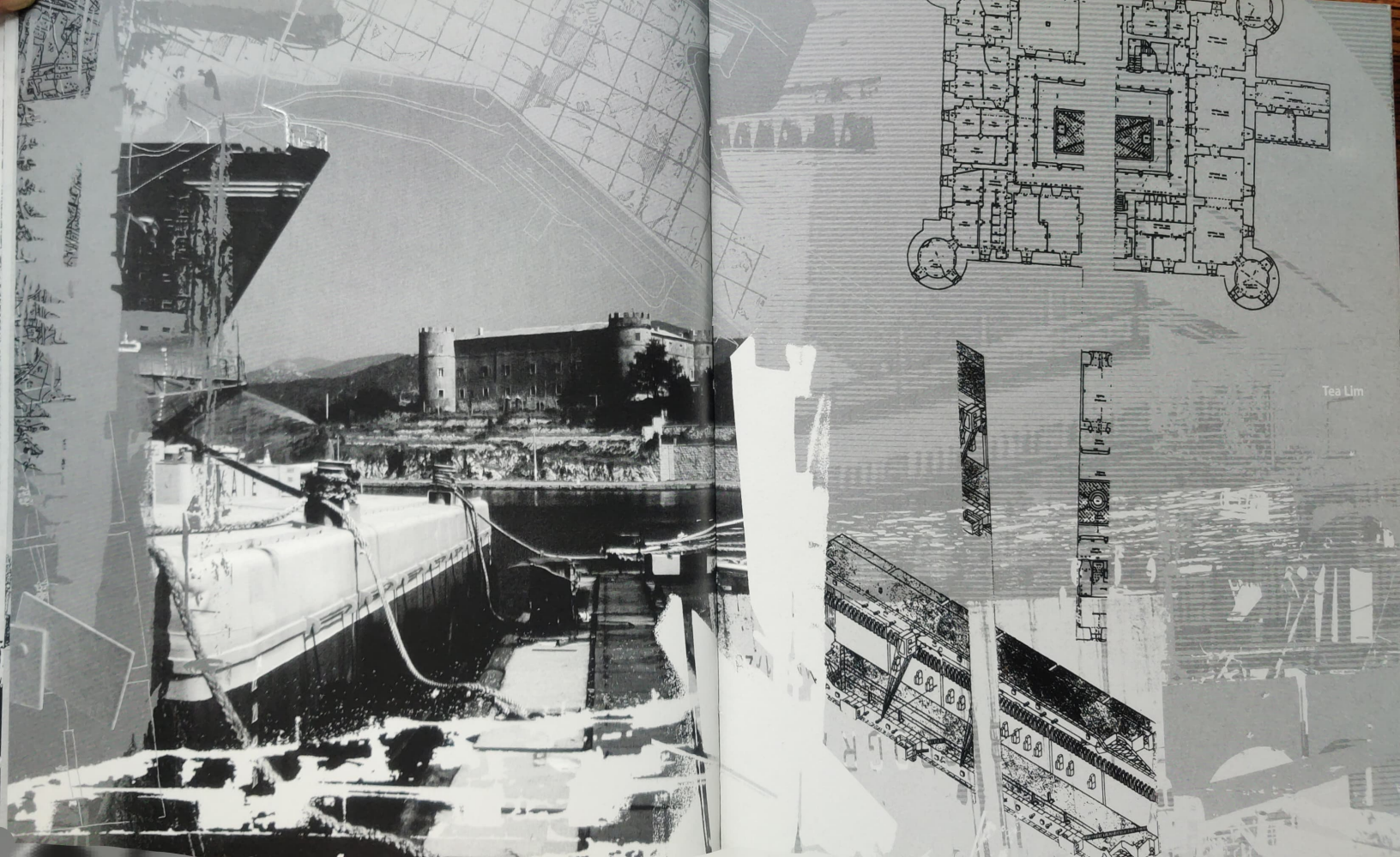
A time of highest intensity, twenty young architects had spent three weeks here, working in the old, decaying, but beautiful castle. Reviewing their work was a fascinating experience. An almost equal number of guests and visitors had come to discuss, argue, talk, study. The projects were concerned with the confrontation of the so different, almost contradictory phenomena inherent to this site. Tourism, industry, politics, geography, ecology, recreation, unemployment, home, ugliness, beauty cause a vibrating edge, pure borderline. As the little jet takes off from Krk, banks steeply for another low turn over Kraljevica, the projects appear. The shipyard is remodeled, Tea Modrcin constructed a dock cut deep into the land, a portal crane serves as a bridge, reconnecting the town with the spa on the far side of the Ostro peninsula. At its tip, Tonci Cerina's structures of steel plates, welded and riveted together by the dock workers, form an architecture/landscape... I can see lights inside, and people moving...the next time I come, I must look at what has grown inside. Down by the little harbor, one of Benedikt Reifig's collapsible artists' studios is being unfolded and leaned against the high wall supporting the road down to the waterfront, and just across the port people are moving about on Melanie Nölken's belvedere. The Frankopan Castle has a balcony, built by Lebbeus Woods and Dwayne Oyler for an overview of the harbor. The castle houses a center for advanced studies in architecture and performing arts, so Tea Lim has turned the dry dock, attaching it to the castle ... people moving there, not working on ships though...a performance of some kind. As it lies now, the structure provides additional shelter for the little port. What remains of the shipyard has become a center for experimental living spaces. Alexander Beck invented floating, nomadic habitations that will be modeled and remodeled according to changing needs and desires. Kraljevica has become a new town, growing again and with new courage. It is now bold enough to confront the oil refinery. Across the mouth of the Bay of Bakar, Zeljka Pavlinovic's long, snakelike structure floats in the currents and the wind, connecting at certain times and tides the storage tanks and the castle. Just next to it, David Koralek's mighty project of exposing the seabed across the mouth of the bay is under construction. As the jet climbs higher over the oil refinery, I recognize tiny new structures amongst the machinery and storage tanks...something is eating the monster...I remember projects infiltrating that refinery, but the plane is too high now to make them out in detail.... I have to come back, explore all these new spaces. High altitude now... and not far from the Alps again....

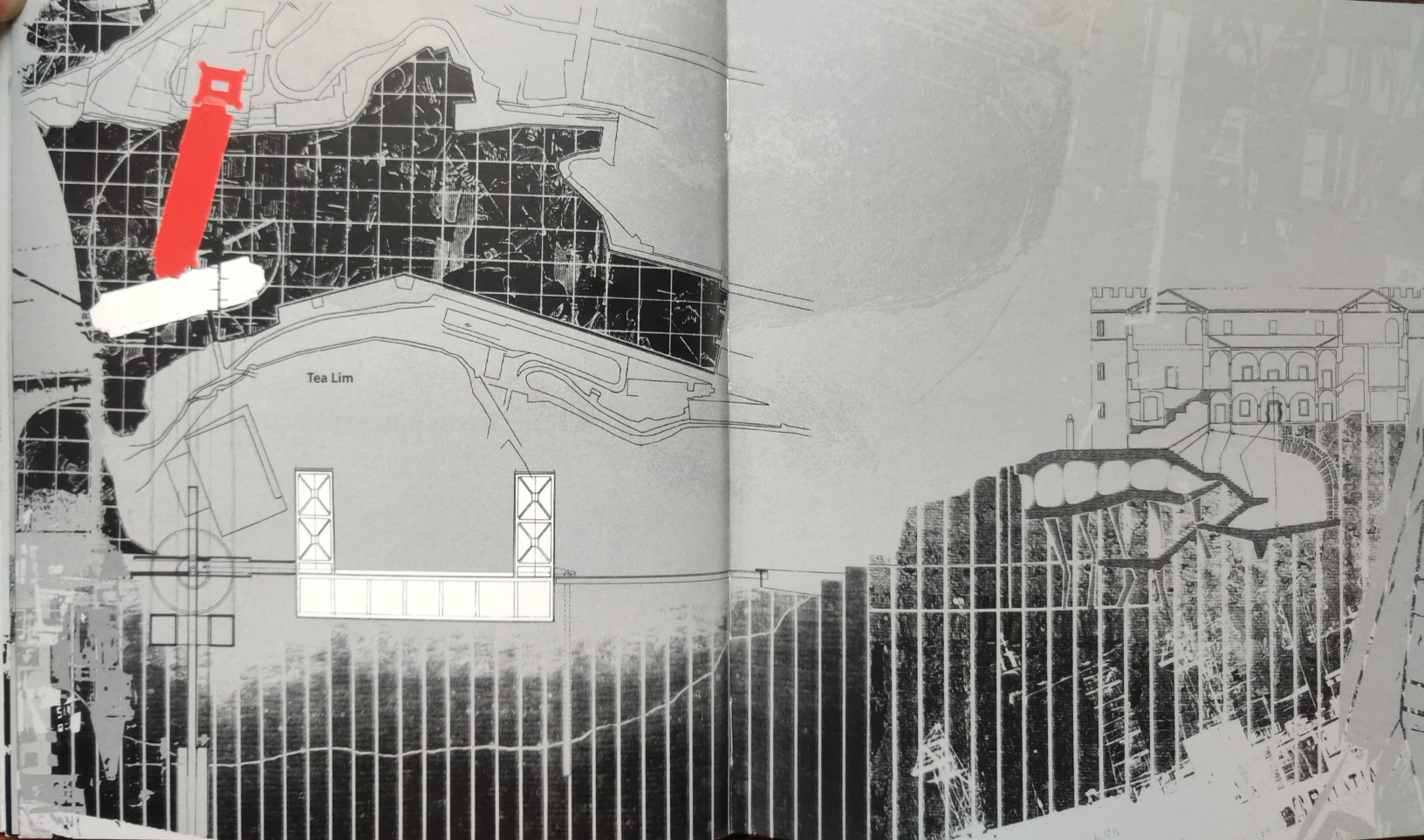
Guy Lafranchi



Tea Modrcin

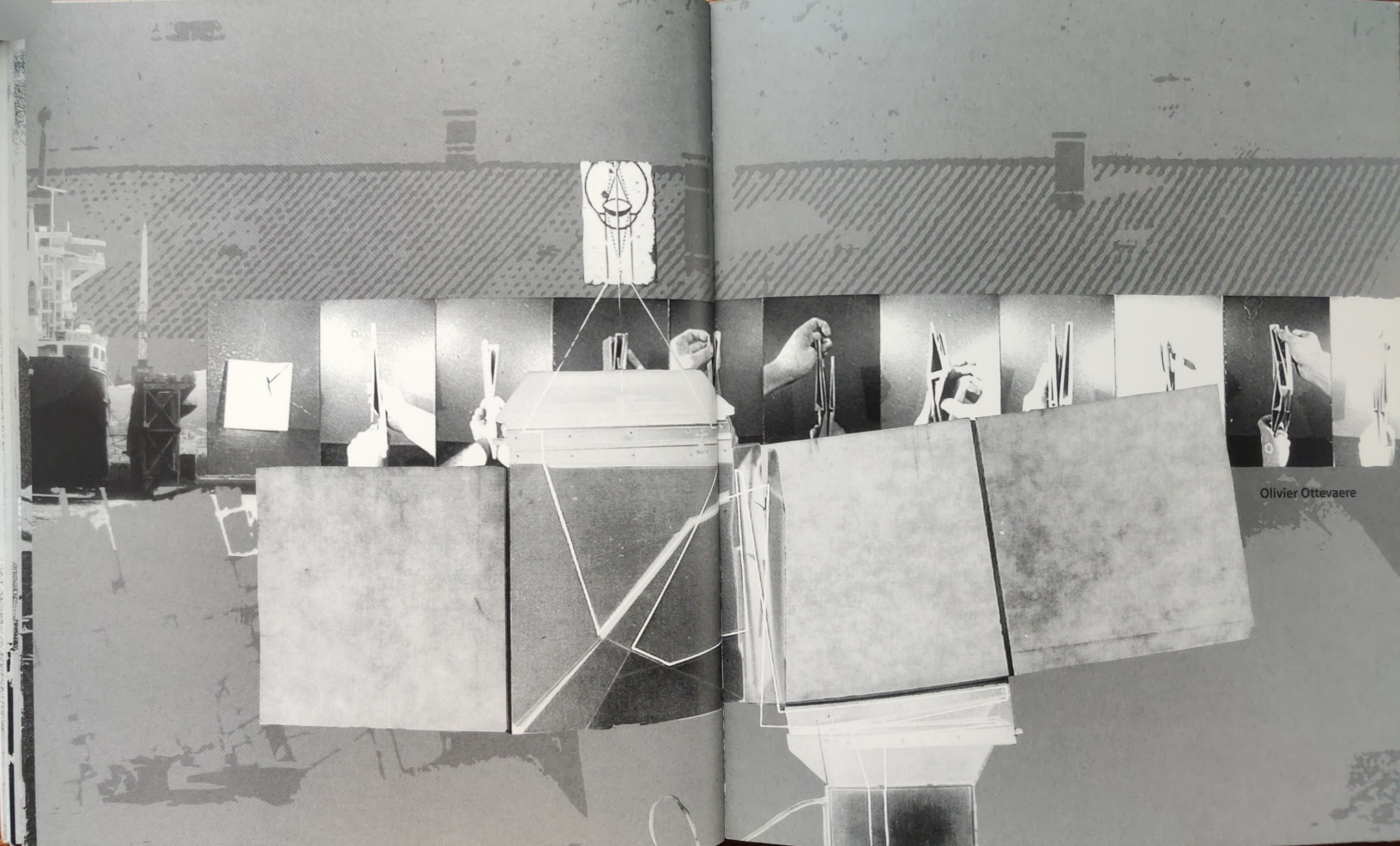

Tonci Cerina

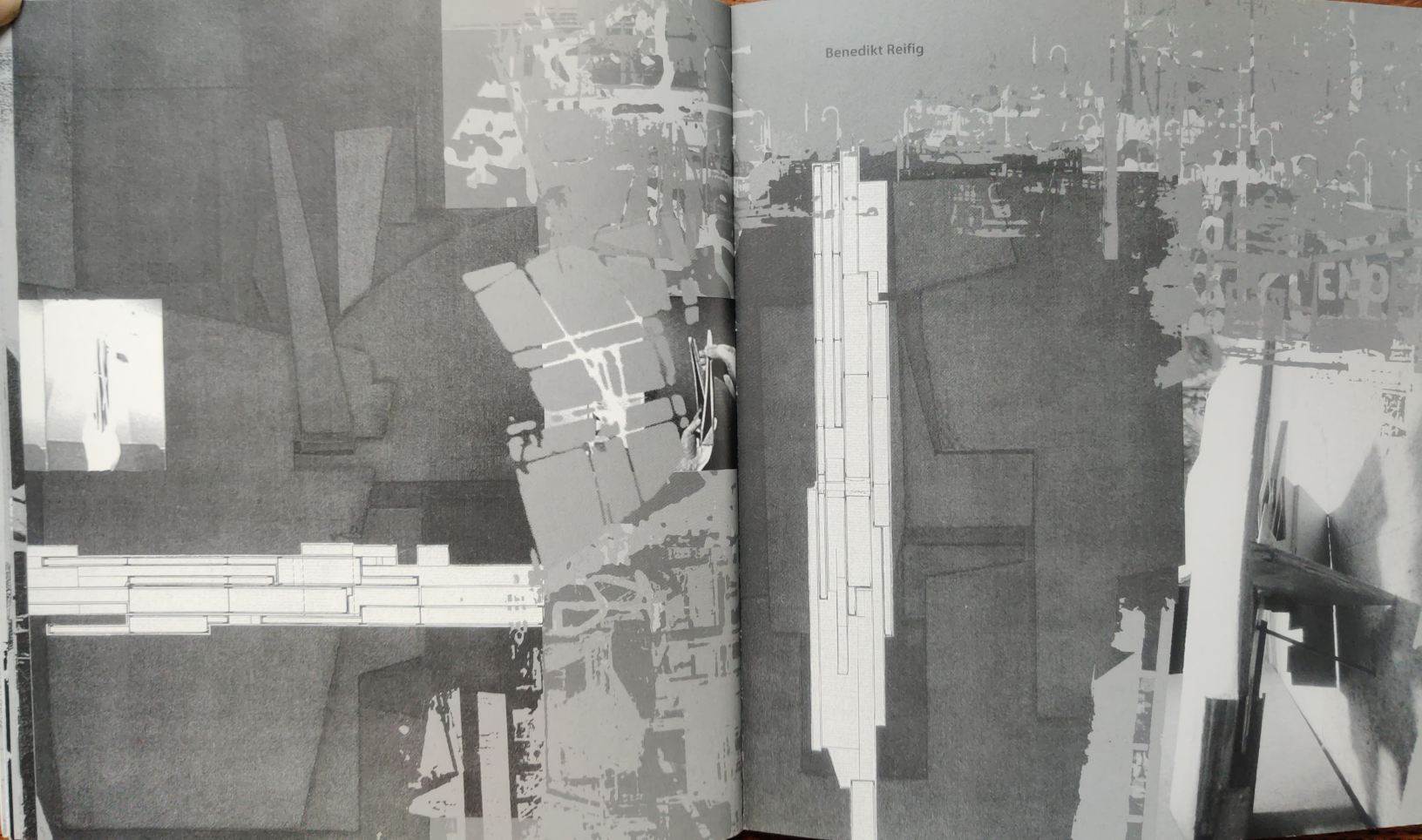

Tea Lim

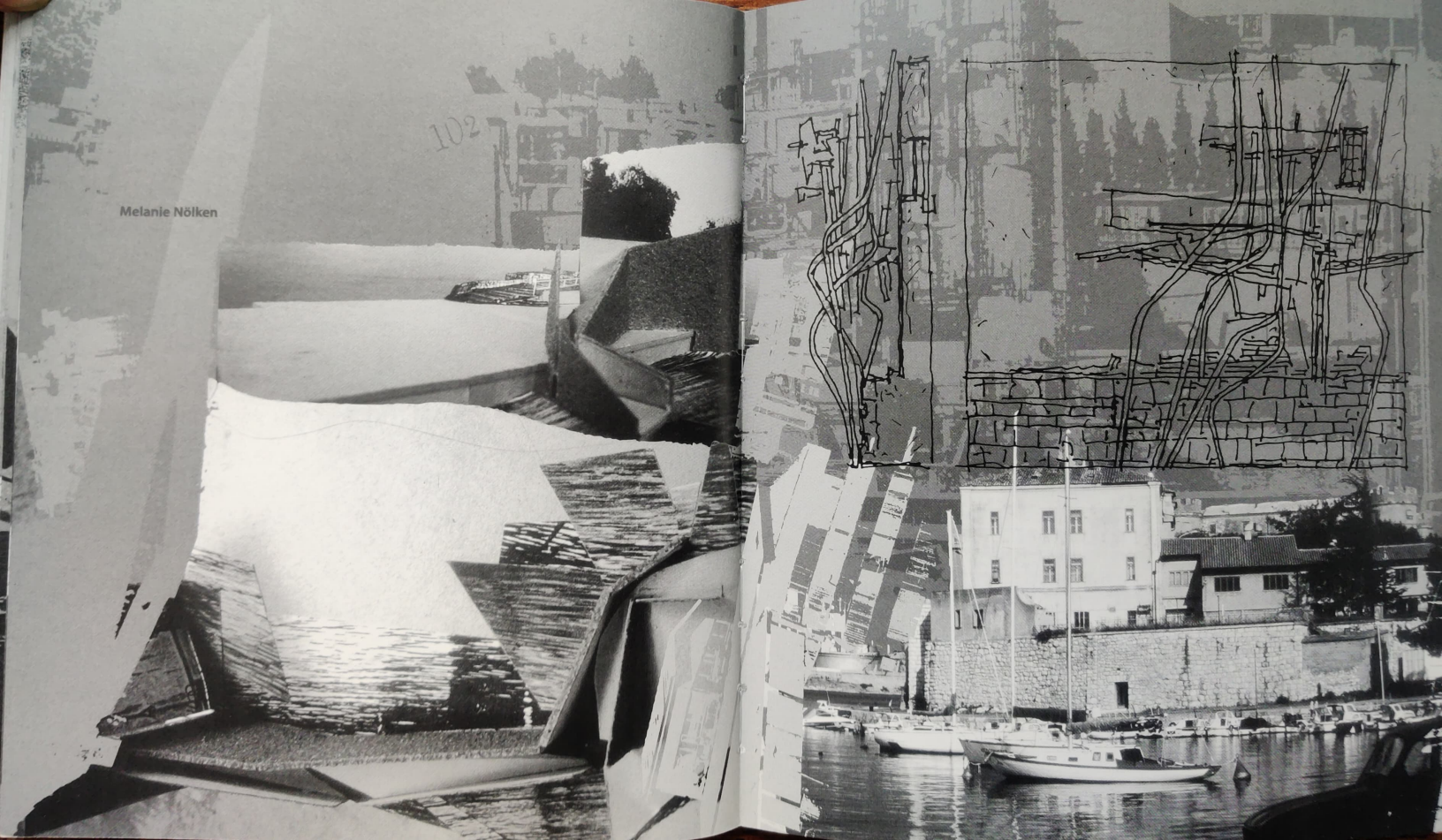

Tea Lim


Alexander Beck


Alexander Beck


Olivier Ottevaere

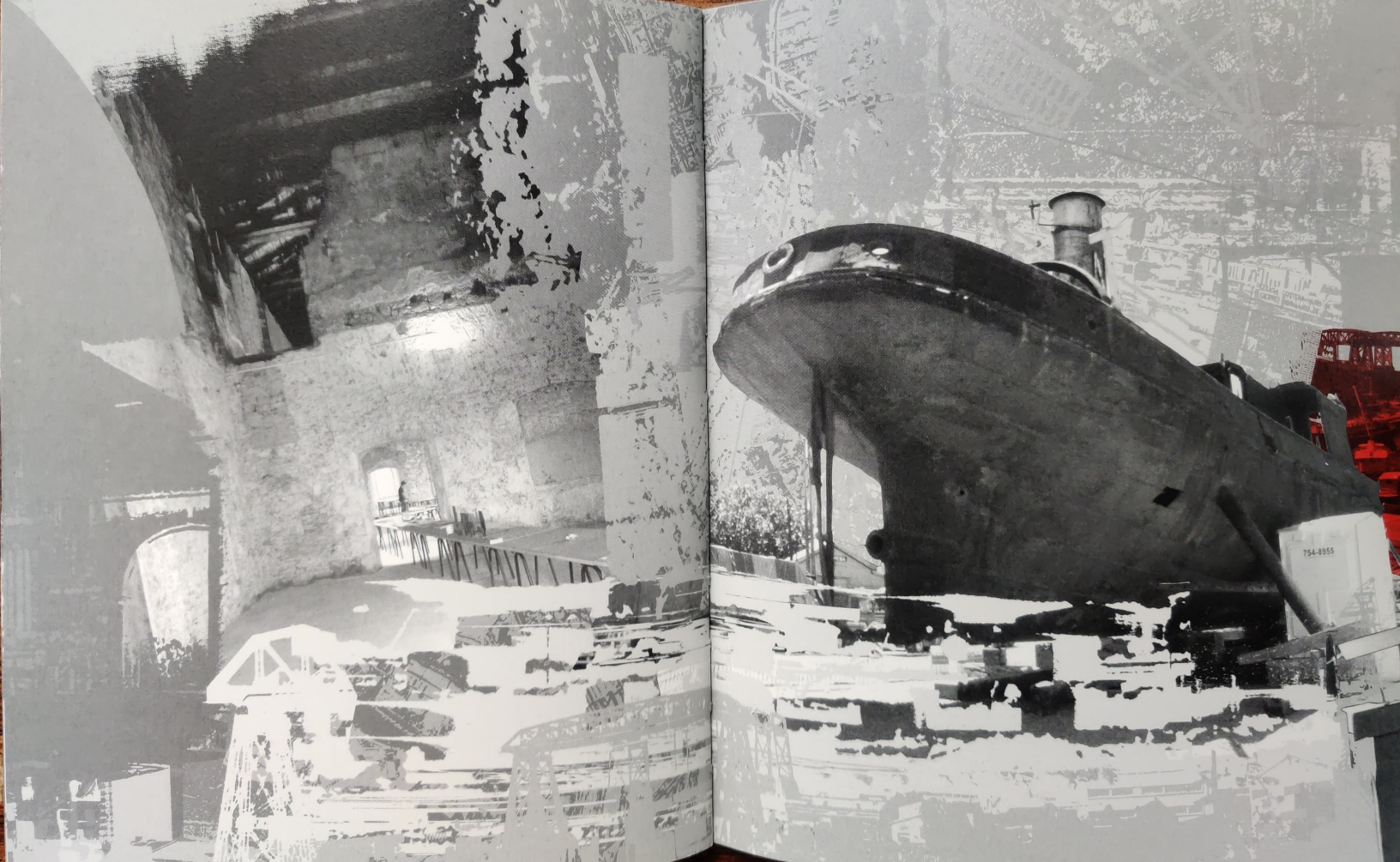

Benedikt Reifig


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Melanie Nölken

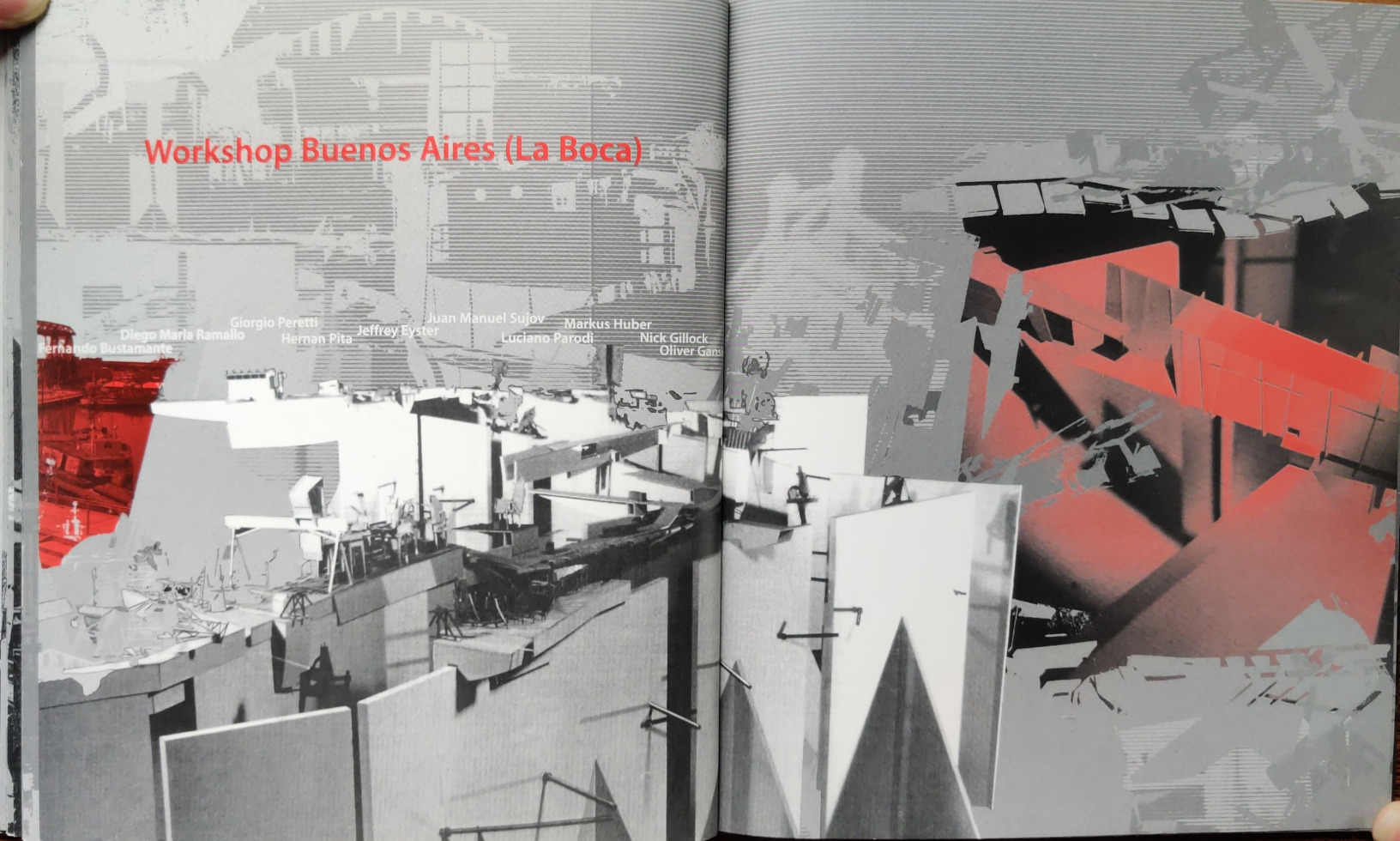


Lebbeus Woods, Dwayne Oyler

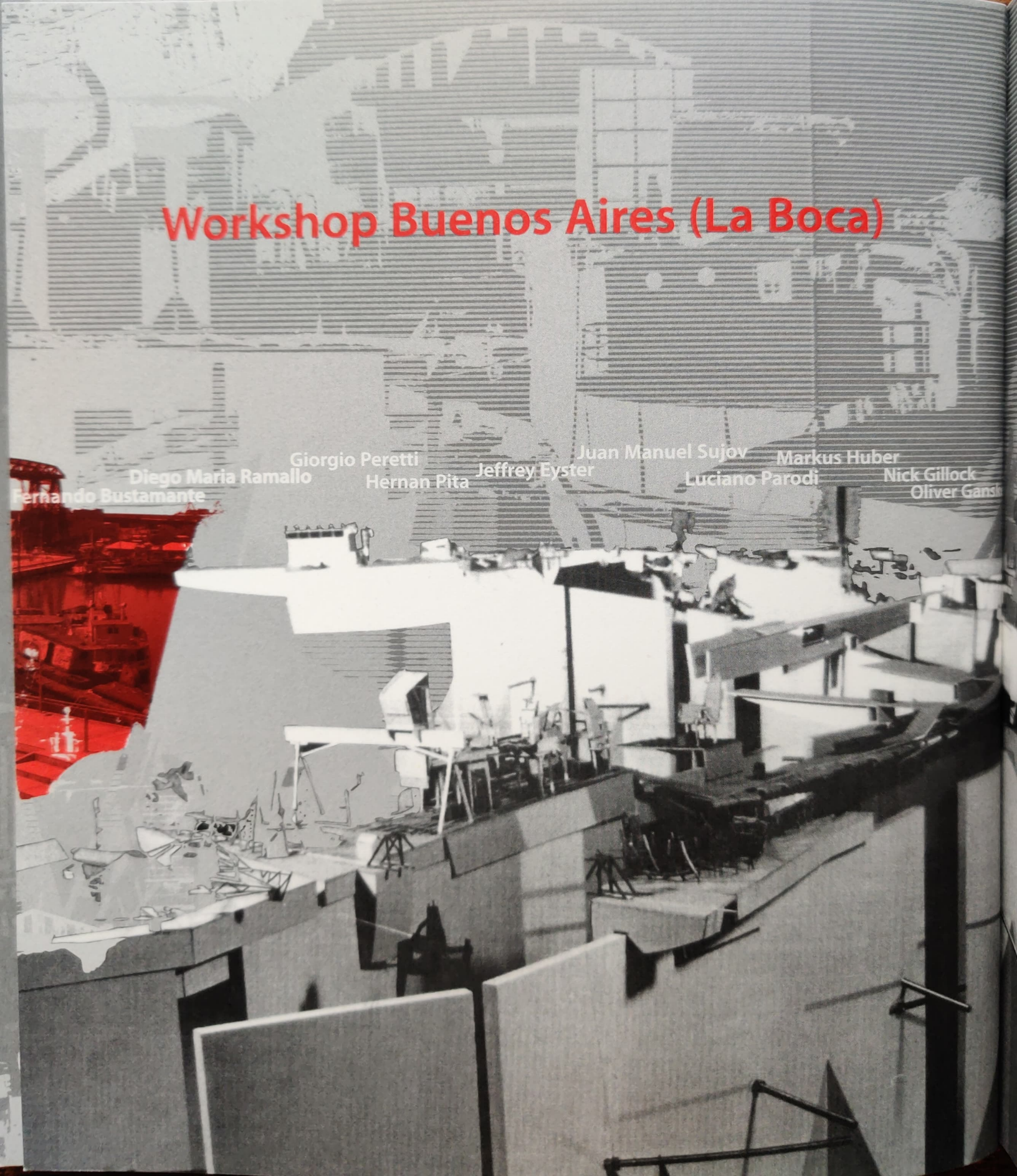
Petar Miskovic

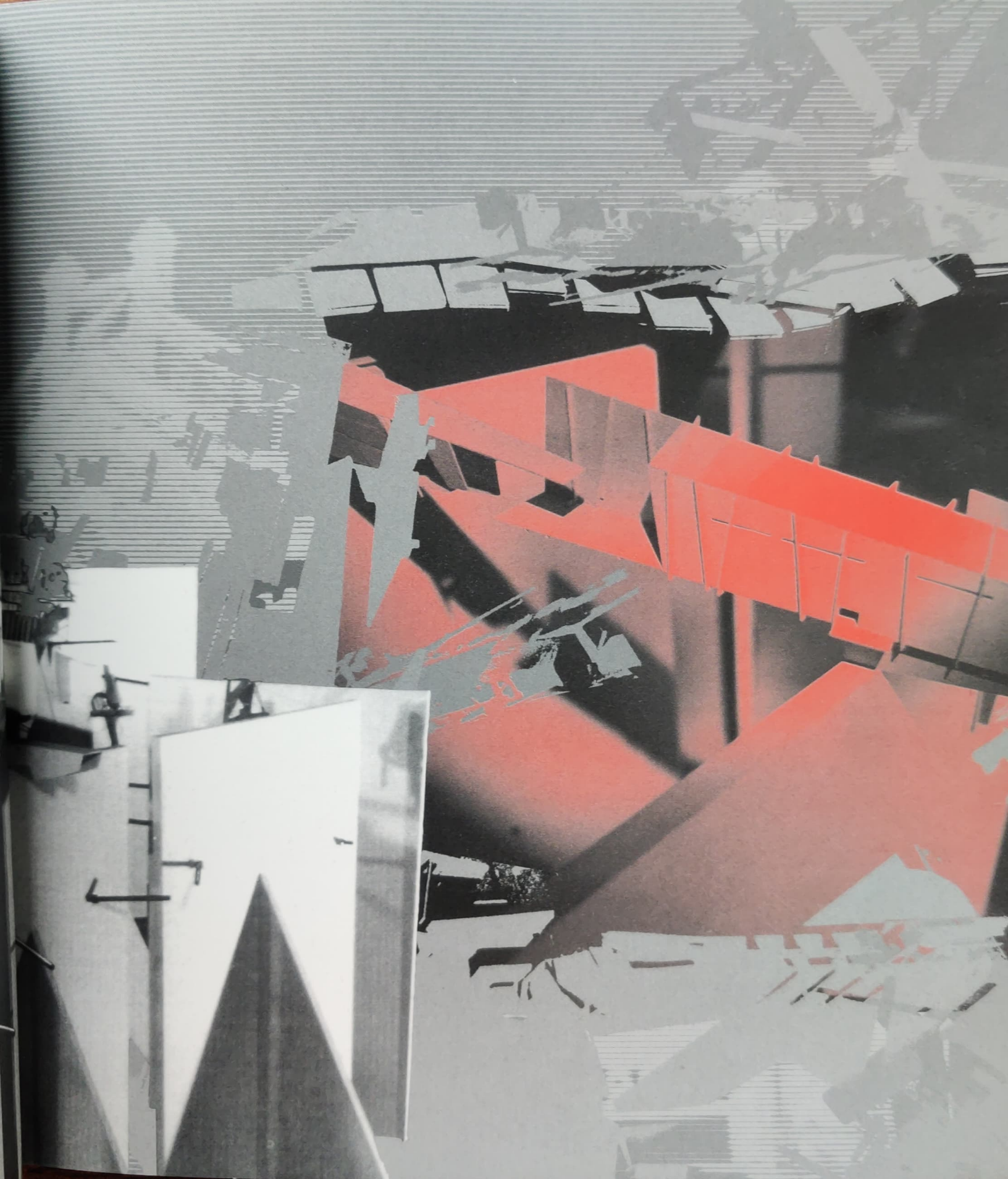

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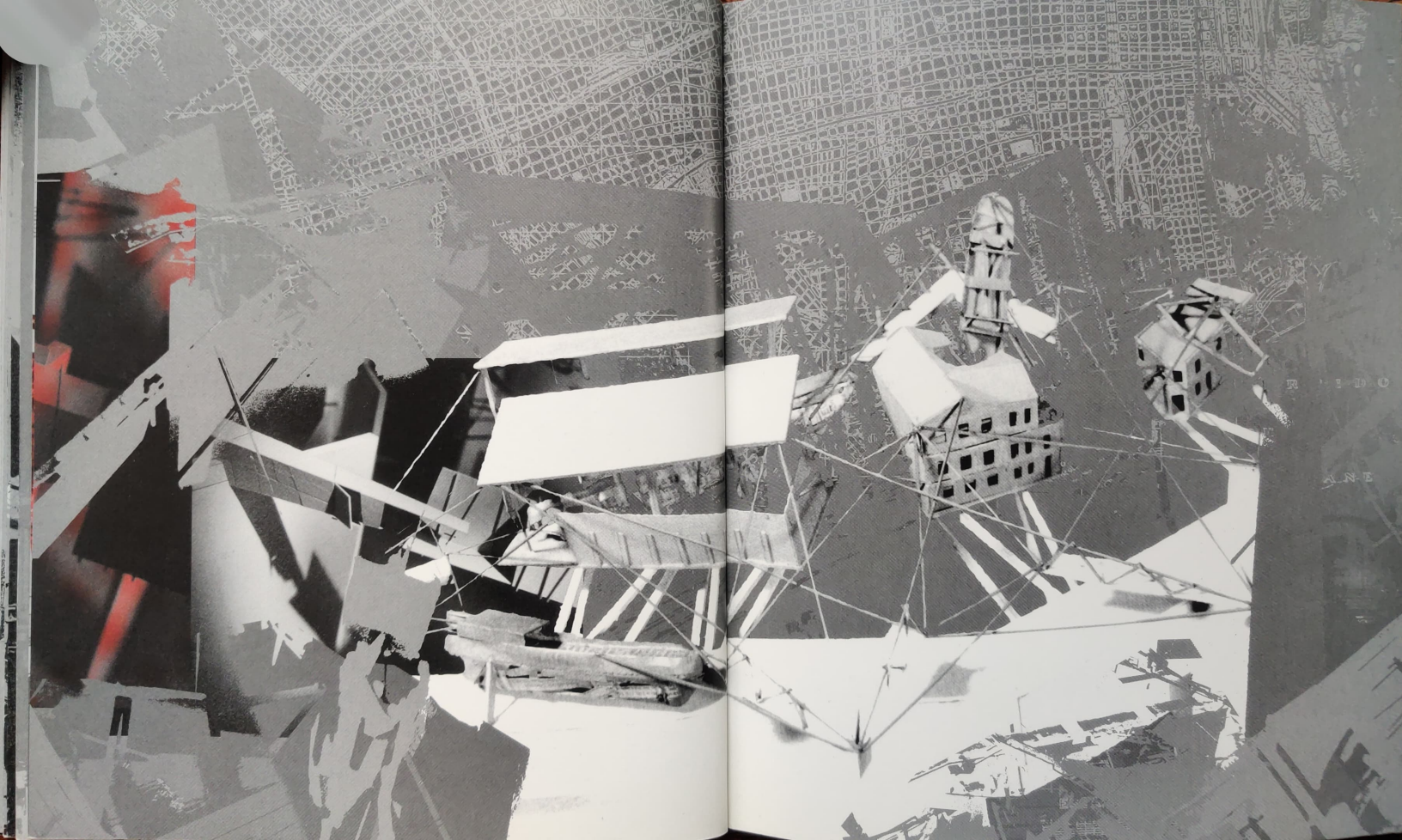
Workshop Buenos Aires (La Boca)



Workshop Buenos Aires (La Boca)







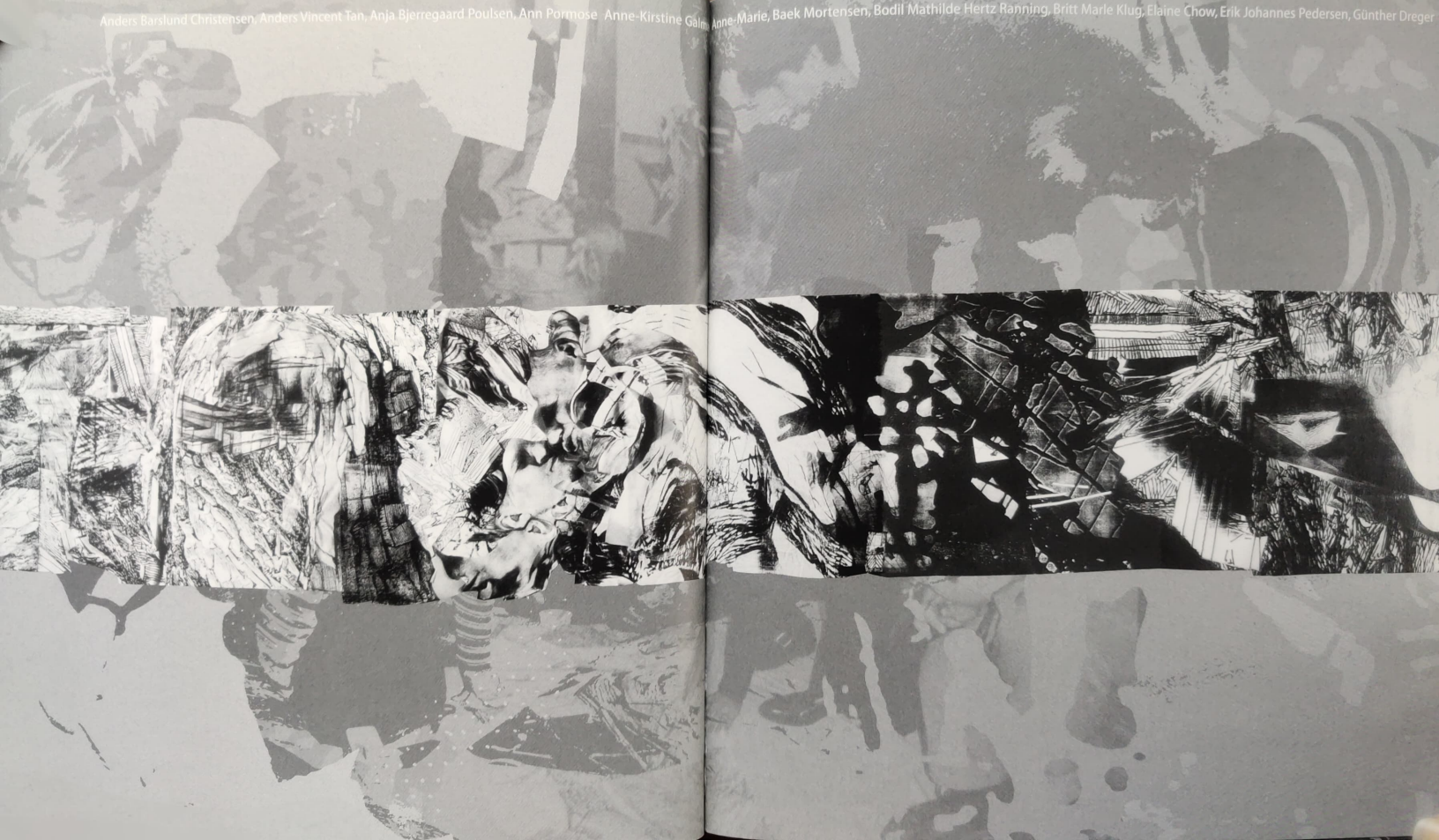


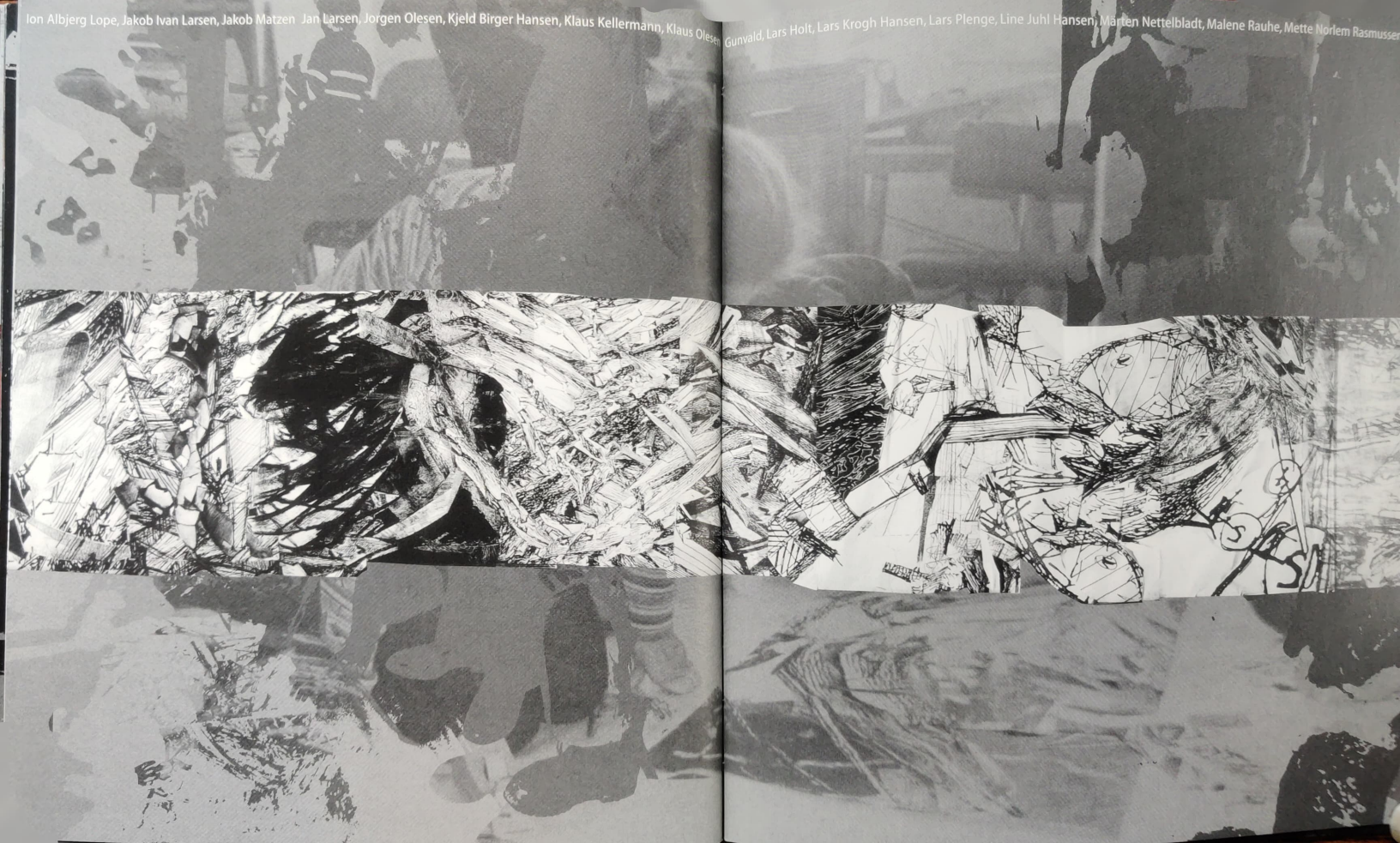




Workshop Aarhus

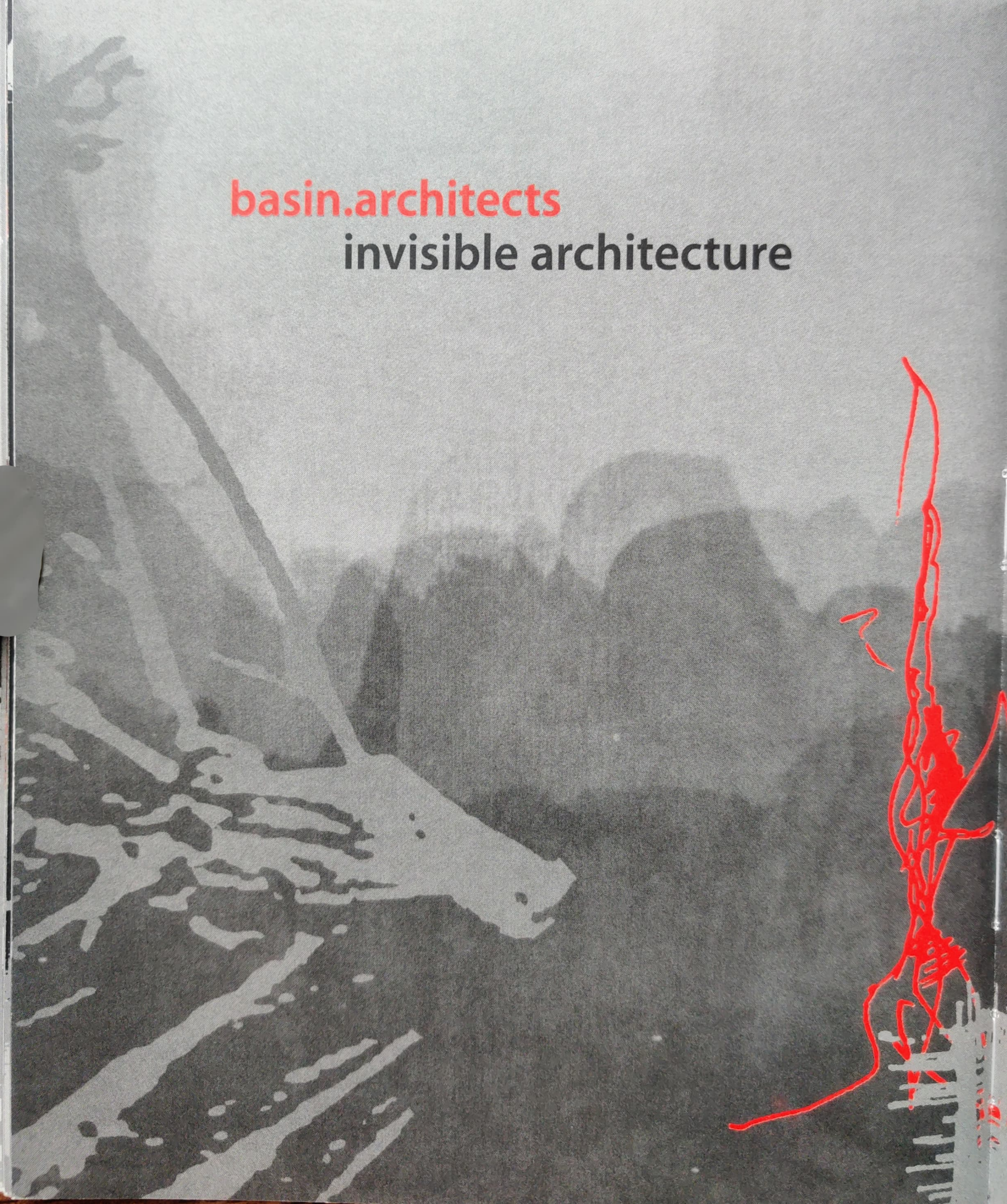



Anders Barslund Christensen, Anders Vincent Tan, Anja Bjerregaard Poulsen, Ann Pormose Anne-Kirstine Gälm, Anne-Marie, Baek Mortensen, Bodil Mathilde Hertz Ranning, Britt Marle Klug, Elaine Chow, Erik Johannes Pedersen, Günther Dreger

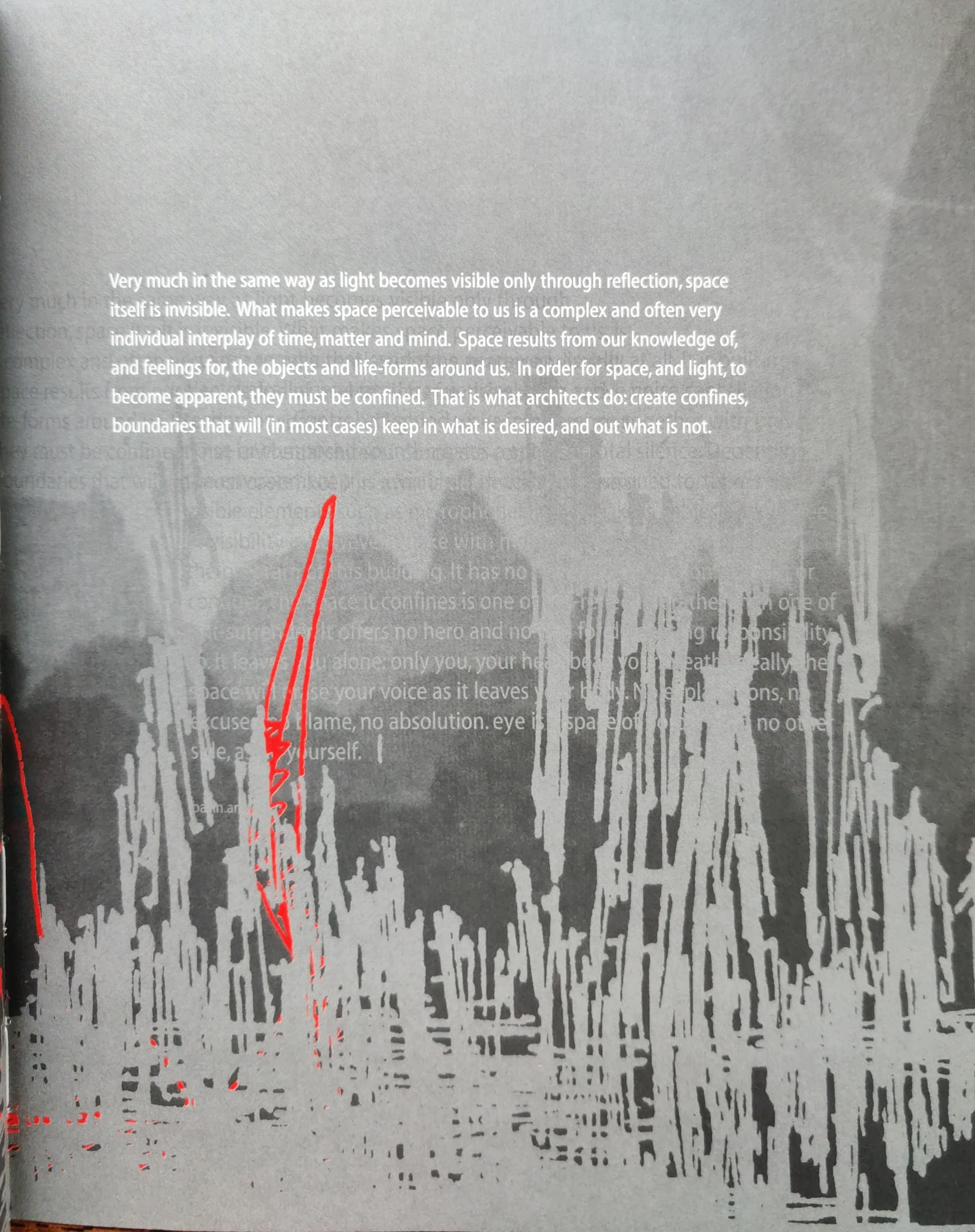

Ion Albjerg Lope, Jakob Ivan Larsen, Jakob Matzen Jan Larsen, Jorgen Olesen, Kjeld Birger Hansen, Klaus Kellermann, Klaus Olesen
Gunvald, Lars Holt, Lars Krogh Hansen, Lars Plenge, Line Juhl Hansen, Marten Nettelbladt, Malene Rauhe, Mette Norlem Rasmussen

Mle Ollse Kjaergaard, Niels Martin Larsen, Odd Pedersen, Rune Dybkjaer, Rune Nielsen, Sine Martinl Mikkelsen, Steen Paw Stryhn, Stig Vesterager Gothelf, Jaques Dan Uhrenholt

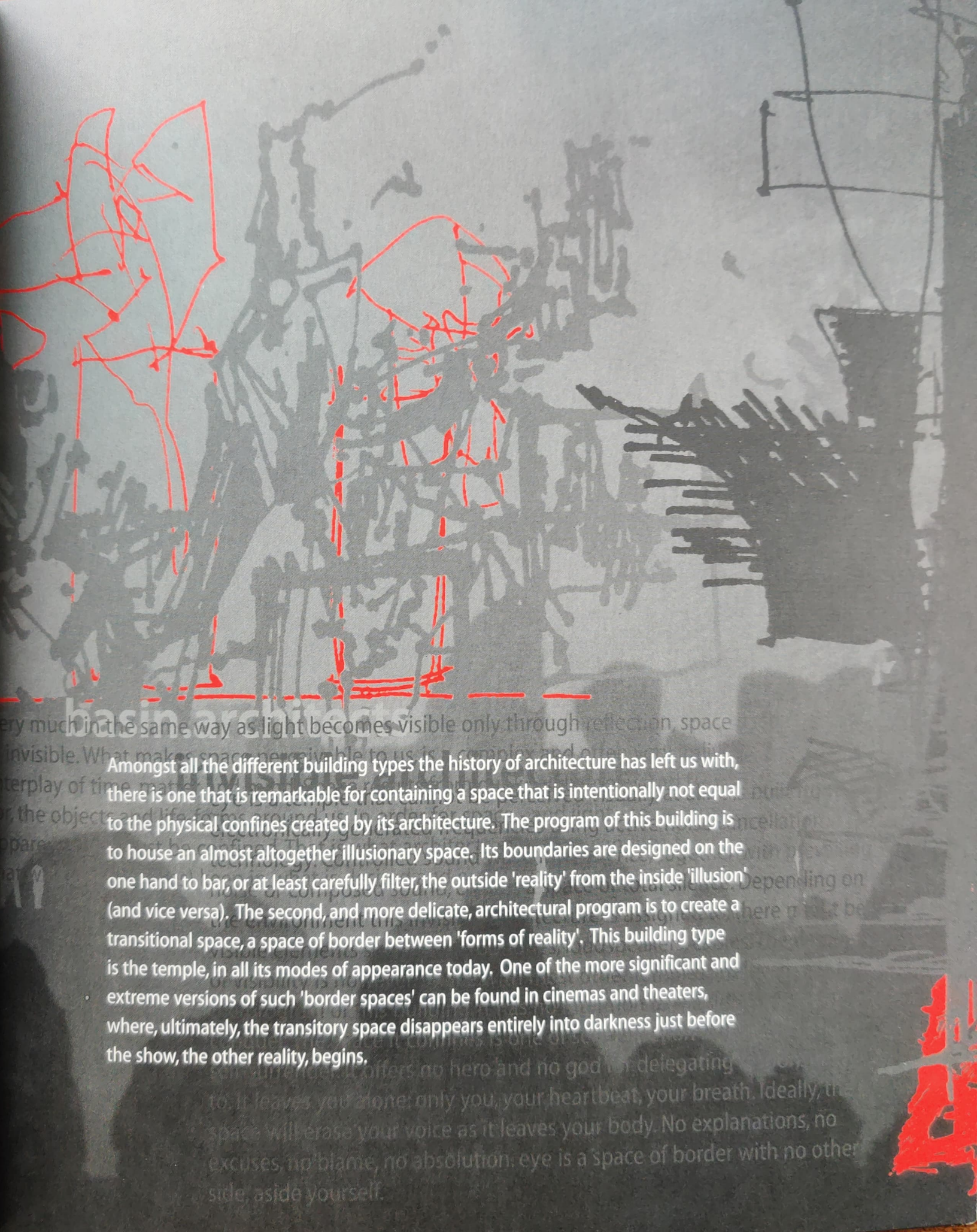



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invisible architecture

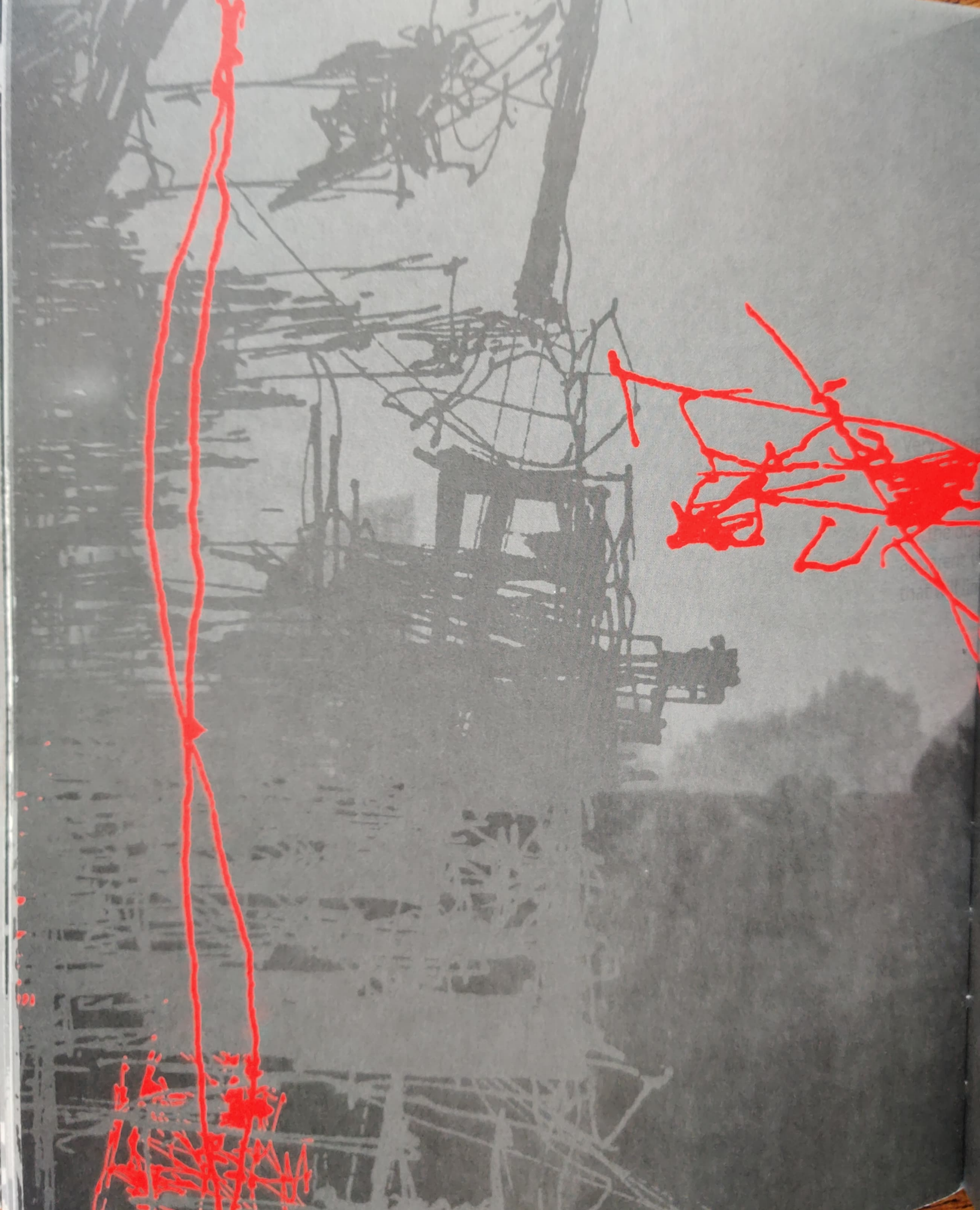
Very much in the same way as light becomes visible only through reflection, space itself is invisible. What makes space perceivable to us is a complex and often very individual interplay of time, matter and mind. Space results from our knowledge of, and feelings for, the objects and life-forms around us. In order for space, and light, to become apparent, they must be confined. That is what architects do: create confines, boundaries that will (in most cases) keep in what is desired, and out what is not.

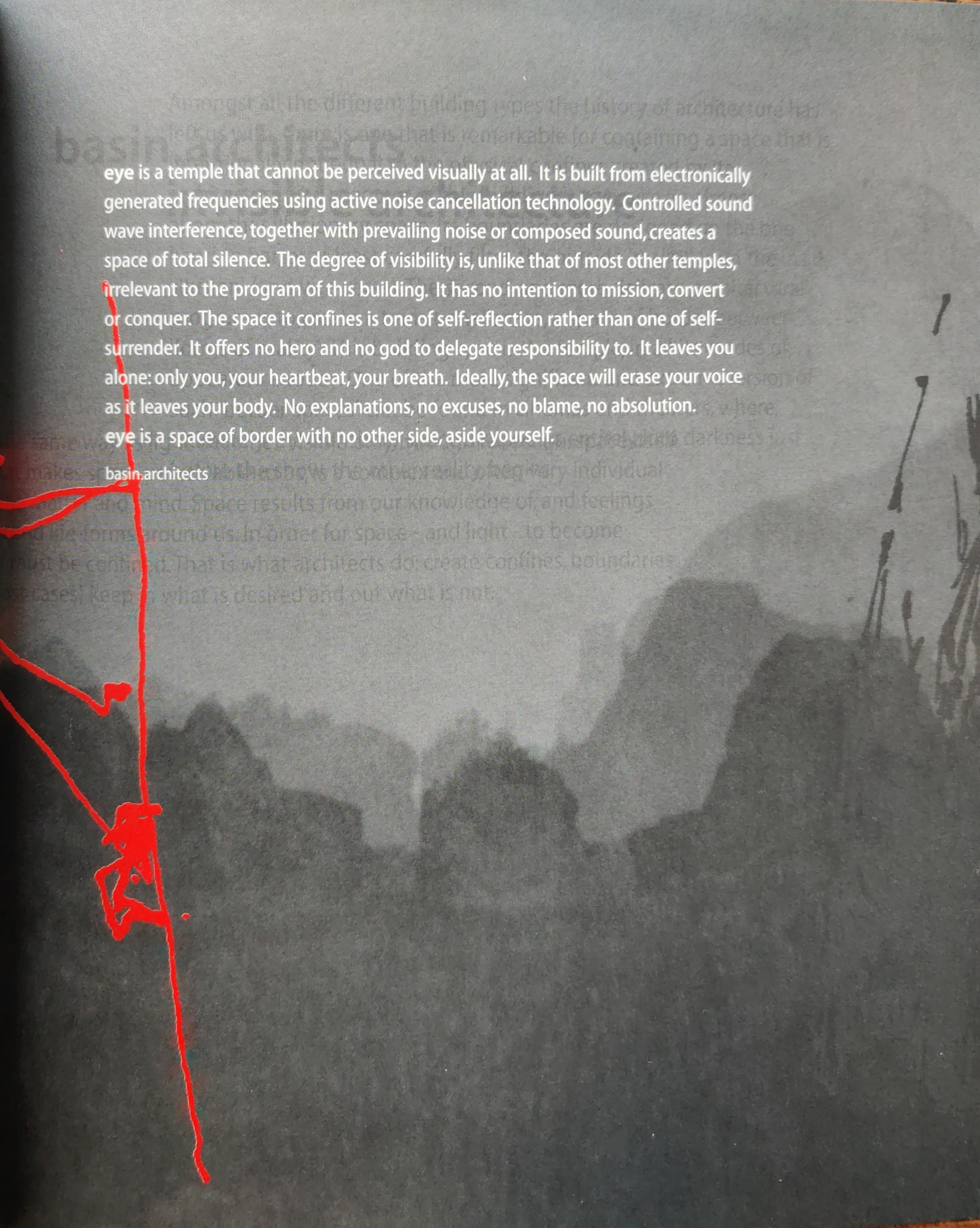






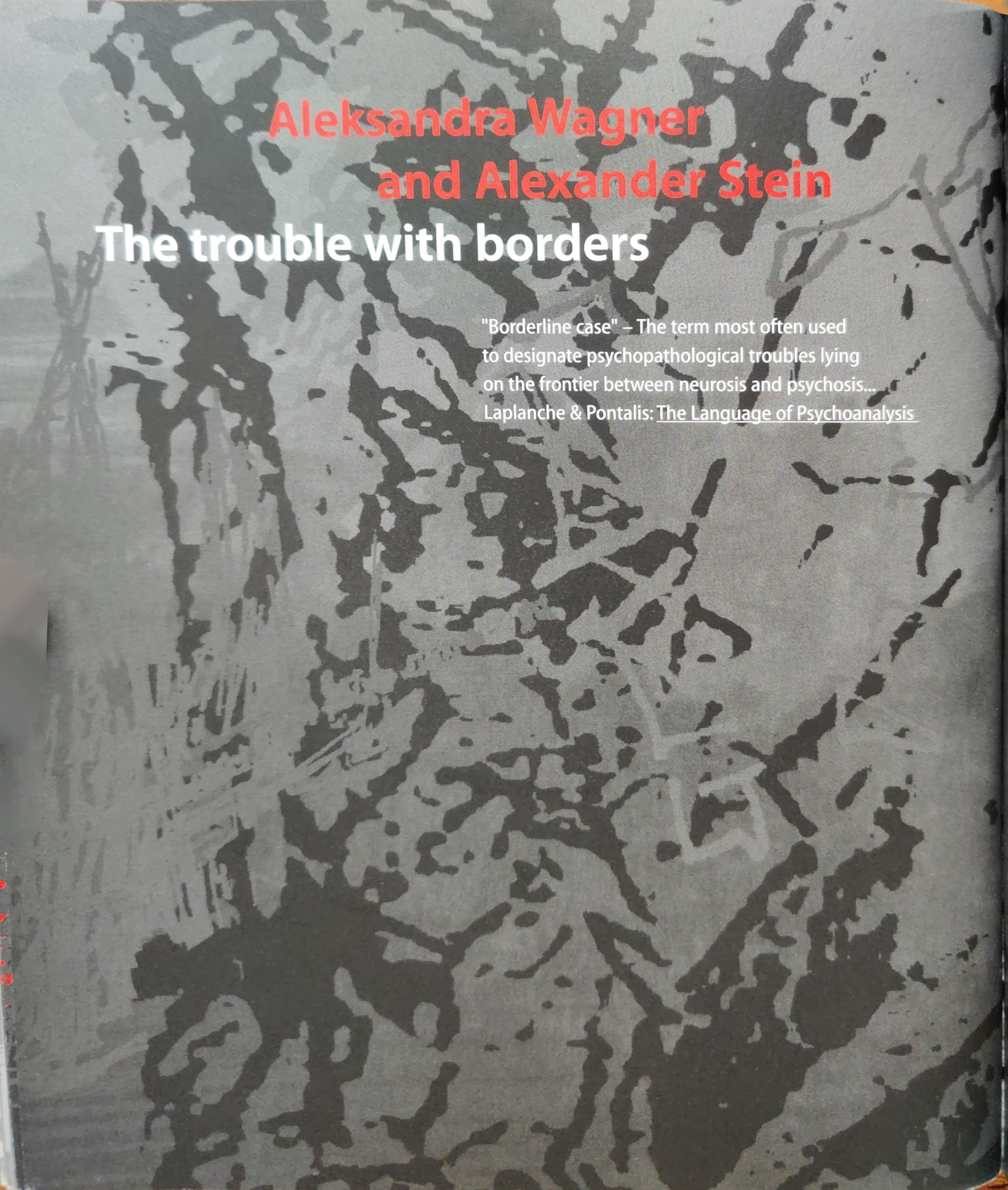
Amongst all the different building types the history of architecture has left us with, there is one that is remarkable for containing a space that is intentionally not equal to the physical confines created by its architecture. The program of this building is to house an almost altogether illusionary space. Its boundaries are designed on the one hand to bar, or at least carefully filter, the outside 'reality' from the inside 'illusion' (and vice versa). The second, and more delicate, architectural program is to create a transitional space, a space of border between 'forms of reality'. This building type is the temple, in all its modes of appearance today. One of the more significant and extreme versions of such 'border spaces' can be found in cinemas and theaters, where, ultimately, the transitory space disappears entirely into darkness just before the show, the other reality, begins.





eye is a temple that cannot be perceived visually at all. It is built from electronically generated frequencies using active noise cancellation technology. Controlled sound wave interference, together with prevailing noise or composed sound, creates a space of total silence. The degree of visibility is, unlike that of most other temples, irrelevant to the program of this building. It has no intention to mission, convert or conquer. The space it confines is one of self-reflection rather than one of self-surrender. It offers no hero and no god to delegate responsibility to. It leaves you alone: only you, your heartbeat, your breath. Ideally, the space will erase your voice as it leaves your body. No explanations, no excuses, no blame, no absolution. **eye** is a space of border with no other side, aside yourself.

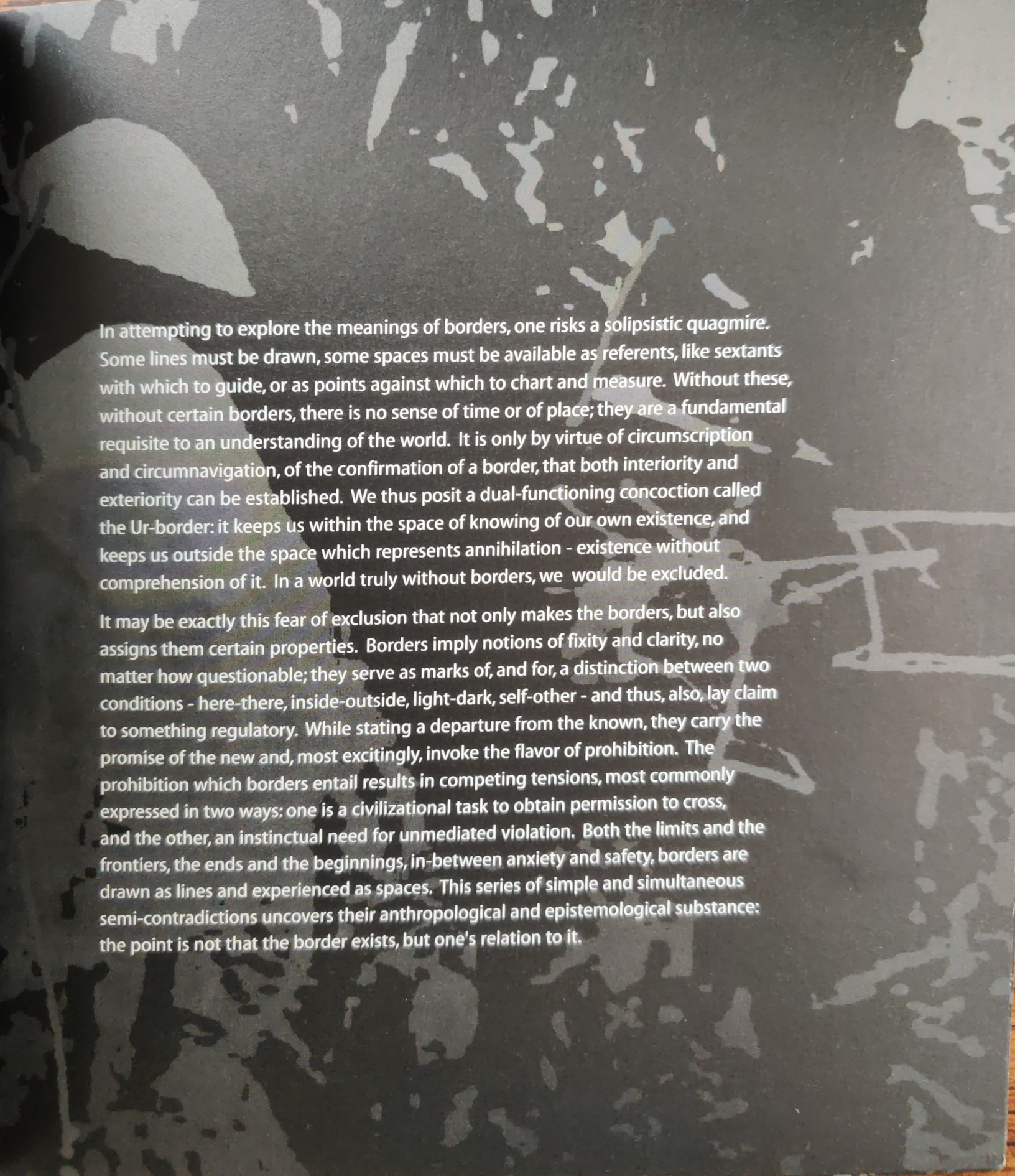
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Aleksandra Wagner and Alexander Stein

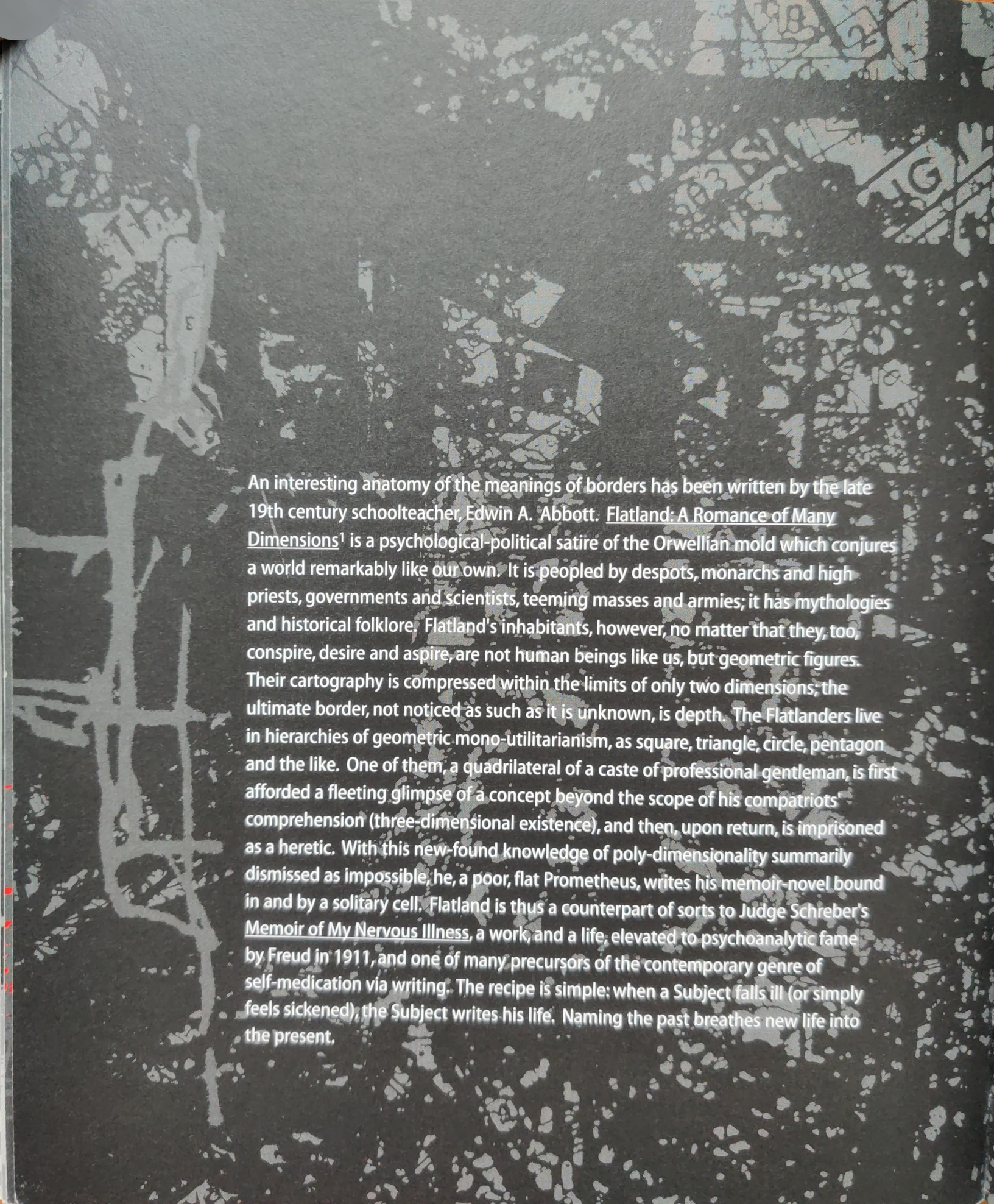
The trouble with borders

"Borderline case" – The term most often used to designate psychopathological troubles lying on the frontier between neurosis and psychosis...
Laplanche & Pontalis: The Language of Psychoanalysis

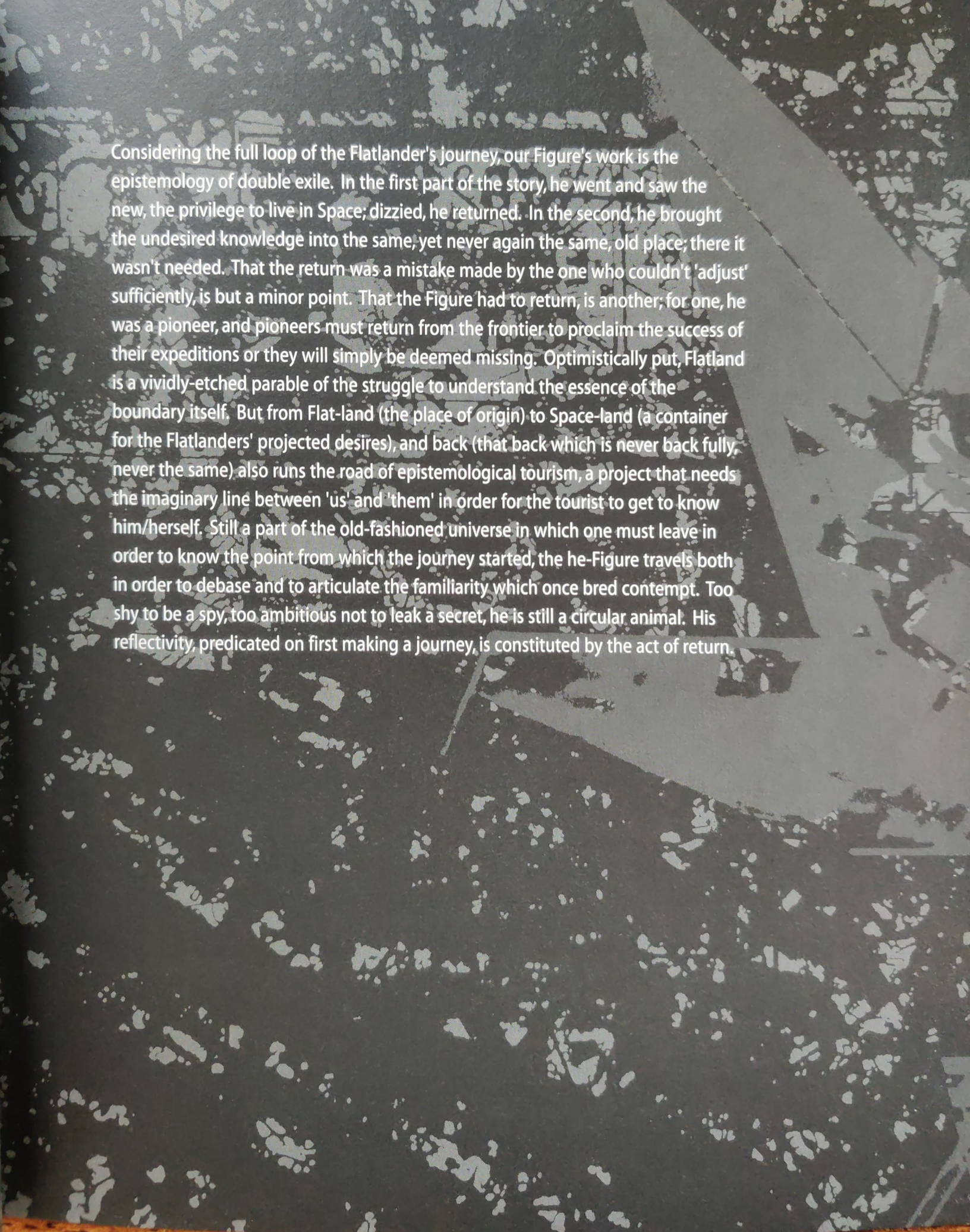


In attempting to explore the meanings of borders, one risks a solipsistic quagmire. Some lines must be drawn, some spaces must be available as referents, like sextants with which to guide, or as points against which to chart and measure. Without these, without certain borders, there is no sense of time or of place; they are a fundamental requisite to an understanding of the world. It is only by virtue of circumscription and circumnavigation, of the confirmation of a border, that both interiority and exteriority can be established. We thus posit a dual-functioning concoction called the Ur-border: it keeps us within the space of knowing of our own existence, and keeps us outside the space which represents annihilation - existence without comprehension of it. In a world truly without borders, we would be excluded.

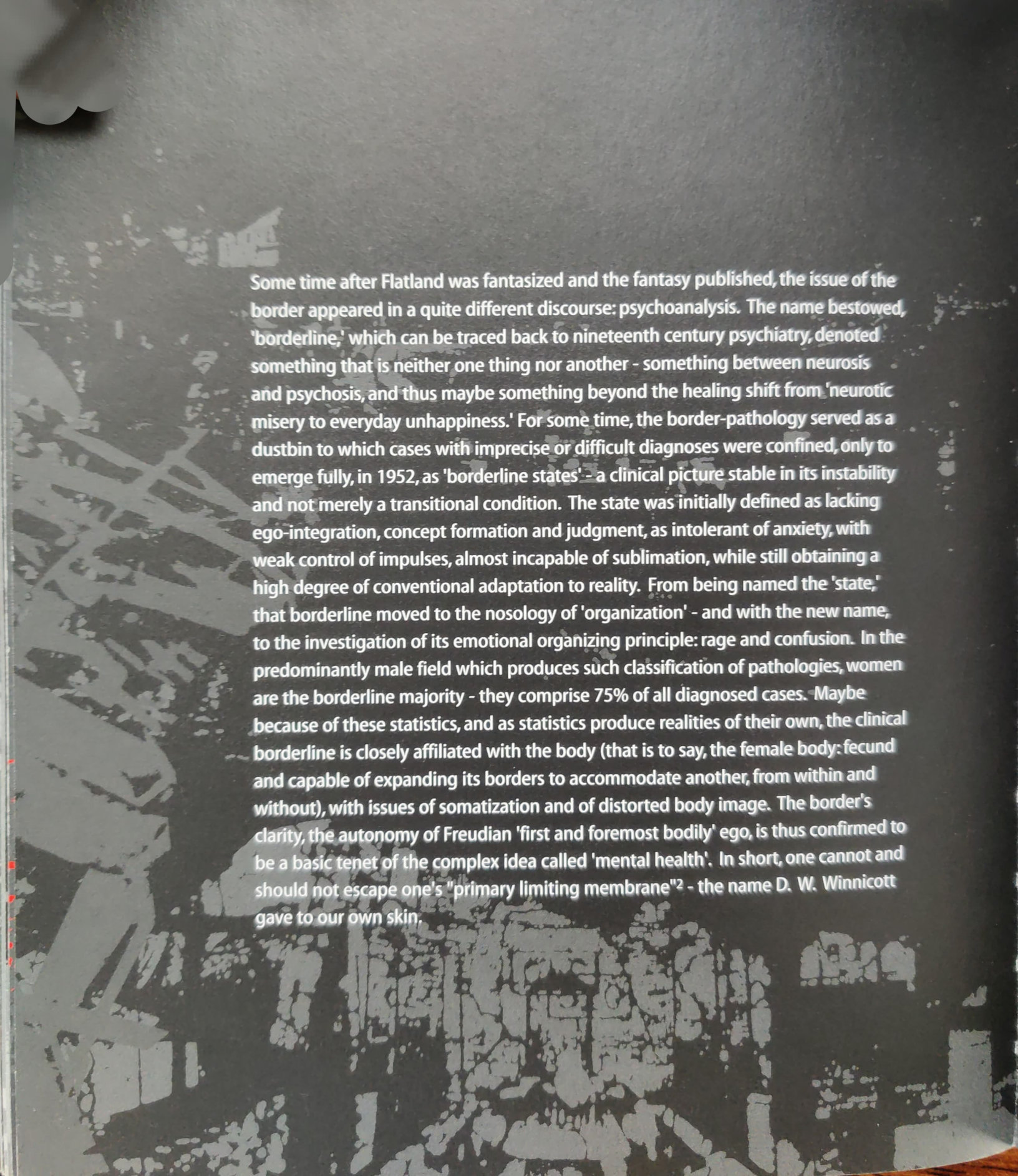
It may be exactly this fear of exclusion that not only makes the borders, but also assigns them certain properties. Borders imply notions of fixity and clarity, no matter how questionable; they serve as marks of, and for, a distinction between two conditions - here-there, inside-outside, light-dark, self-other - and thus, also, lay claim to something regulatory. While stating a departure from the known, they carry the promise of the new and, most excitingly, invoke the flavor of prohibition. The prohibition which borders entail results in competing tensions, most commonly expressed in two ways: one is a civilizational task to obtain permission to cross, and the other, an instinctual need for unmediated violation. Both the limits and the frontiers, the ends and the beginnings, in-between anxiety and safety, borders are drawn as lines and experienced as spaces. This series of simple and simultaneous semi-contradictions uncovers their anthropological and epistemological substance: the point is not that the border exists, but one's relation to it.



An interesting anatomy of the meanings of borders has been written by the late 19th century schoolteacher, Edwin A. Abbott. Flatland: A Romance of Many Dimensions[1] is a psychological-political satire of the Orwellian mold which conjures a world remarkably like our own. It is peopled by despots, monarchs and high priests, governments and scientists, teeming masses and armies; it has mythologies and historical folklore. Flatland's inhabitants, however, no matter that they, too, conspire, desire and aspire, are not human beings like us, but geometric figures. Their cartography is compressed within the limits of only two dimensions; the ultimate border, not noticed as such as it is unknown, is depth. The Flatlanders live in hierarchies of geometric mono-utilitarianism, as square, triangle, circle, pentagon and the like. One of them, a quadrilateral of a caste of professional gentleman, is first afforded a fleeting glimpse of a concept beyond the scope of his compatriots' comprehension (three-dimensional existence), and then, upon return, is imprisoned as a heretic. With this new-found knowledge of poly-dimensionality summarily dismissed as impossible, he, a poor, flat Prometheus, writes his memoir-novel bound in and by a solitary cell. Flatland is thus a counterpart of sorts to Judge Schreber's Memoir of My Nervous Illness, a work, and a life, elevated to psychoanalytic fame by Freud in 1911, and one of many precursors of the contemporary genre of self-medication via writing. The recipe is simple: when a Subject falls ill (or simply feels sickened), the Subject writes his life. Naming the past breathes new life into the present.

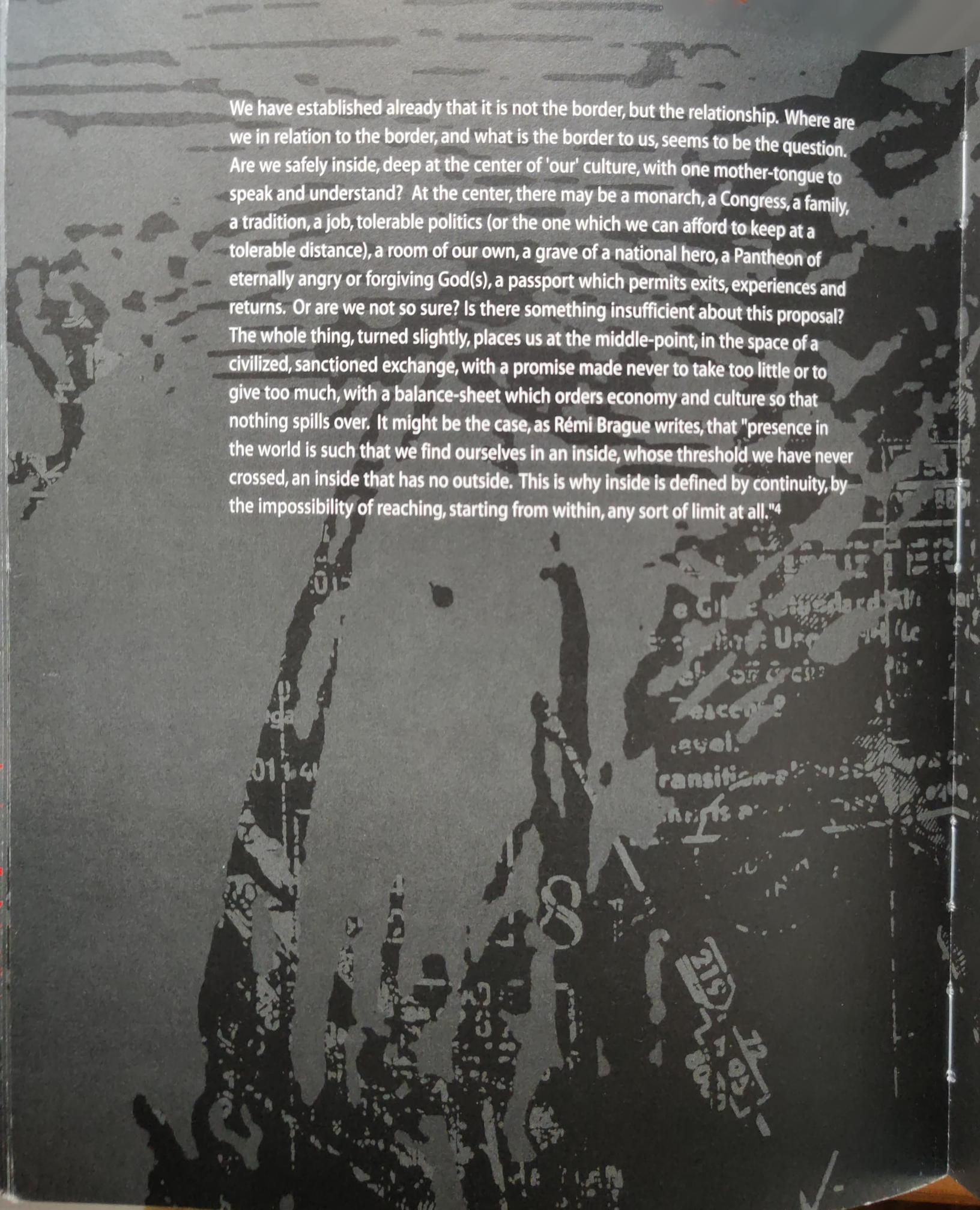


Considering the full loop of the Flatlander's journey, our Figure's work is the epistemology of double exile. In the first part of the story, he went and saw the new, the privilege to live in Space; dizzied, he returned. In the second, he brought the undesired knowledge into the same, yet never again the same, old place; there it wasn't needed. That the return was a mistake made by the one who couldn't 'adjust' sufficiently, is but a minor point. That the Figure had to return, is another; for one, he was a pioneer, and pioneers must return from the frontier to proclaim the success of their expeditions or they will simply be deemed missing. Optimistically put, Flatland is a vividly-etched parable of the struggle to understand the essence of the boundary itself. But from Flat-land (the place of origin) to Space-land (a container for the Flatlanders' projected desires), and back (that back which is never back fully, never the same) also runs the road of epistemological tourism, a project that needs the imaginary line between 'us' and 'them' in order for the tourist to get to know him/herself. Still a part of the old-fashioned universe in which one must leave in order to know the point from which the journey started, the he-Figure travels both in order to debase and to articulate the familiarity which once bred contempt. Too shy to be a spy, too ambitious not to leak a secret, he is still a circular animal. His reflectivity, predicated on first making a journey, is constituted by the act of return.



Some time after Flatland was fantasized and the fantasy published, the issue of the border appeared in a quite different discourse: psychoanalysis. The name bestowed, 'borderline,' which can be traced back to nineteenth century psychiatry, denoted something that is neither one thing nor another - something between neurosis and psychosis, and thus maybe something beyond the healing shift from 'neurotic misery to everyday unhappiness.' For some time, the border-pathology served as a dustbin to which cases with imprecise or difficult diagnoses were confined, only to emerge fully, in 1952, as 'borderline states' - a clinical picture stable in its instability and not merely a transitional condition. The state was initially defined as lacking ego-integration, concept formation and judgment, as intolerant of anxiety, with weak control of impulses, almost incapable of sublimation, while still obtaining a high degree of conventional adaptation to reality. From being named the 'state,' that borderline moved to the nosology of 'organization' - and with the new name, to the investigation of its emotional organizing principle: rage and confusion. In the predominantly male field which produces such classification of pathologies, women are the borderline majority - they comprise 75% of all diagnosed cases. Maybe because of these statistics, and as statistics produce realities of their own, the clinical borderline is closely affiliated with the body (that is to say, the female body: fecund and capable of expanding its borders to accommodate another, from within and without), with issues of somatization and of distorted body image. The border's clarity, the autonomy of Freudian 'first and foremost bodily' ego, is thus confirmed to be a basic tenet of the complex idea called 'mental health'. In short, one cannot and should not escape one's "primary limiting membrane"[2] - the name D. W. Winnicott gave to our own skin.

This is how far it went. With an 'organization', with 'states', even with a longer-present, old-fashioned 'condition' - there is probably no other piece of 'pathological' nomenclature but the borderline which so precisely and decisively moves into the political space, into zones where the psyche acts or refuses to act. The borders, carefully named - "Check-Point Charlie," "Knock Before Entering," "Stop," "Private," "Do not Cross" - augment the appeal of experience in front of which a soon-to-be transgressor once stood poised. Once, but not any more. Now we have finally succeeded in having what we deserve: "a schizophrenic out for a walk is a better model than a neurotic lying on the analyst's couch" claim Deleuze and Guattari[3]; or, to each time its pathology. The borderline patient will not lie on the couch four times a week or even three. She says she does not need an architecturally drawn line around her psychic space. She migrates, pushes and pulls. Her place is a hole into which she has fallen (or been pushed). Like Alice, she can never be late; she knows her own time. Hers is neither a rationalist brain nor a romantic heart, but a liver, a repository of poisonous desires. The world has been unjust to the borderline and she fights the injustice not with a neurotic type of quiescence or a proclamation of sufficiently medicated rosy-cheeked epistemology: "Aha, I understand!" but with a plan for revenge.



We have established already that it is not the border, but the relationship. Where are we in relation to the border, and what is the border to us, seems to be the question. Are we safely inside, deep at the center of 'our' culture, with one mother-tongue to speak and understand? At the center, there may be a monarch, a Congress, a family, a tradition, a job, tolerable politics (or the one which we can afford to keep at a tolerable distance), a room of our own, a grave of a national hero, a Pantheon of eternally angry or forgiving God(s), a passport which permits exits, experiences and returns. Or are we not so sure? Is there something insufficient about this proposal? The whole thing, turned slightly, places us at the middle-point, in the space of a civilized, sanctioned exchange, with a promise made never to take too little or to give too much, with a balance-sheet which orders economy and culture so that nothing spills over. It might be the case, as Rémi Brague writes, that "presence in the world is such that we find ourselves in an inside, whose threshold we have never crossed, an inside that has no outside. This is why inside is defined by continuity, by the impossibility of reaching, starting from within, any sort of limit at all."[4]

It is with this in mind that it becomes possible to pose a question about the trouble with borders. Borders have gained significant popularity in the glossary of critical theory, at least the one which reaffirms the importance of space. Even without explicitly spatial claims and concerns, critical thought has established the necessary move from the center to peripheries, the margins - from spaces of full control and hegemony to those where control is diminished and where thoughts/actions are more resistant and thus potentially freer. So much inspired writing from Yeats on, from Foucault on, from bell hooks on ... has taken the border, along with fragmentation and the emerging ebbs, flows, spills and undercurrents, to be a critique of the power-hungry, homogenized and homogenizing discourse, of the self-proclaimed and self-assuring 'relevant' experience. Despite the careful maintenance of the center, despite different kinds of administrative and bureaucratic adhesives applied to secure its 'holding' presence, it is a border that became a space where things happen - in the ruins of fallen Empires of permissible, prescriptive knowledge, in the ruins of logic of containment. In that joyful embrace of what bell hooks has named "margin, a space of radical openness"[5], both the liberatory and the skeptical thought of our time is revealed. The center does not hold; one must endure homelessness. The border is a strategic site, placed between the loss and the gain. This much is clear. So, how can there be any trouble with it?

We have named the Flatlander an old-fashioned figure, precisely because he returned. In the language of the critique of his period, he could be seen as an imperialist. In that scheme, the epistemological 'I' went to, say, the Congo, which he then conquered, and where he placed 'his' Governor to rule as his proxy; he then returned, never ceased thinking about the place, and continued to make that Congo from afar, from his drawing room. The Flatlander was missing depth, let us recall. Did that make his return easier, or would the repressed of a three-dimensional being return more 'fully'? The depth of the contemporary condition is that there is no return. What would a more contemporary, so called modern-post-modern figure do?

In the book properly titled, Losing Control?, Saskia Sassen[6] writes that the logic of immigration, or, more precisely, the logic of its law, still operates on the old supposition: there is the border and there is the idea of the individual will. The border and the individual are, in this way, seen as regulatory sites - borders to be policed and the border-crossers are the only active (and thus the only responsible) elements of immigration. There is no 'receiving country' on the horizon: the right to leave may be universal, but the right to enter is not. Thus, the whole critical poetry of flows liberates borders for goods better than it does for people; goods and services flow, while people must stay in line. The place of human destination is passive. For the 19th century 'hero' that was easy - he never meant to stay there anyway. For the three-dimensional, however, this is a problem, for the space of entry remains the border, no matter where one is physically in the landscape of the new country. The border is no longer a heroic spot; it is, rather, the space where so many people are. Pioneers, once an absolute minority, either no longer exist at all or they are millions. Somewhere between the old neurosis and a new psychosis, beyond any field of a unified vision or of the less-than-hybrid identity, the people and the spaces of the borderline have been simultaneously produced and self-invented: "dressed in shreds of national costumes, out of season, the wilted plumage of intercontinental vagabondage. We ask only one thing: to be allowed to land; to pass through; to continue."[7] No room of one's own here. This is the condition of itinerants, not to be confused with an ultimately center-bound romance with madness.

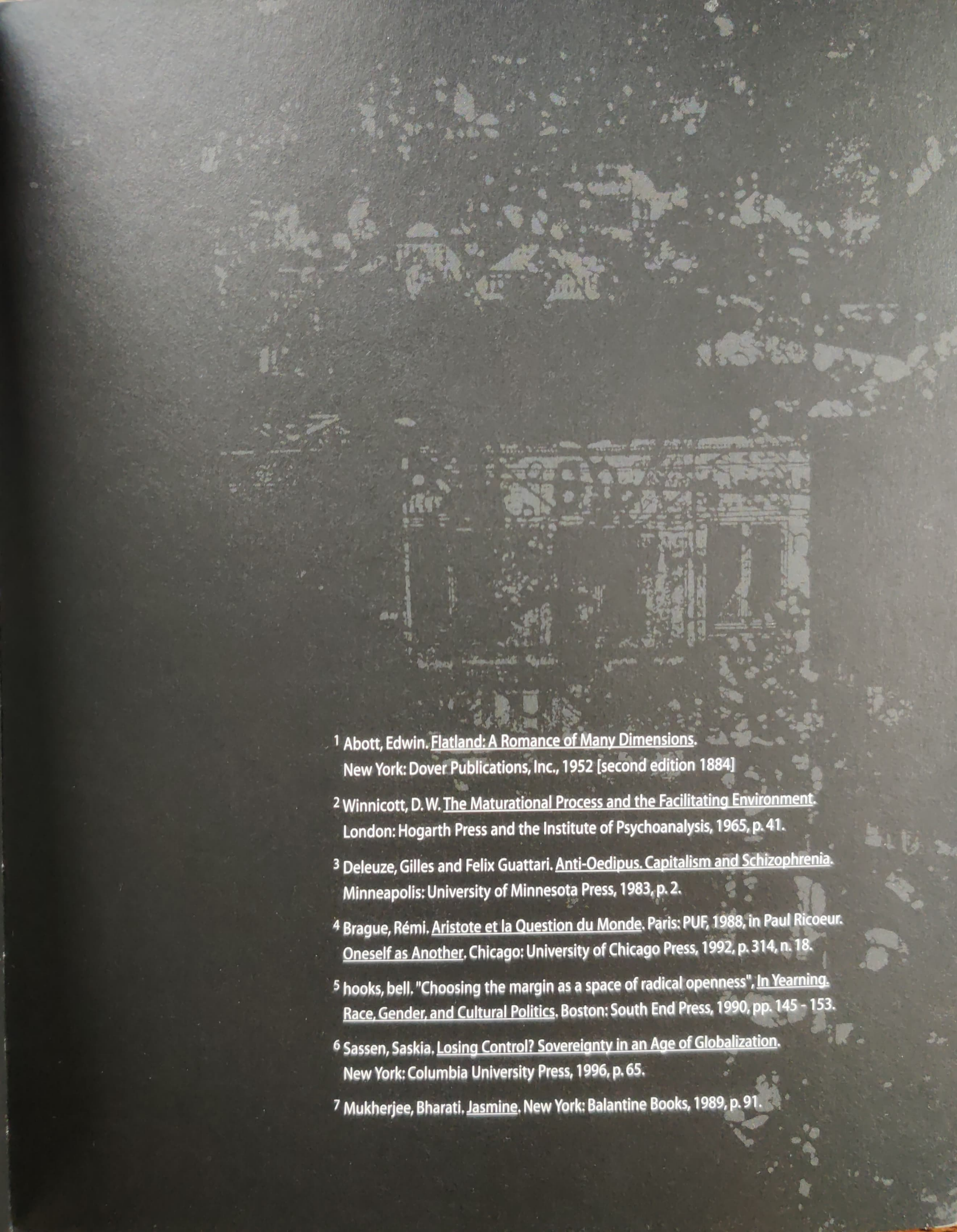
If there were once a power which placed events in the center, working hard to secure its importance, if there has been a liberatory move from the center, can we avoid an equally administrative proposal for the border to become a new center? Yesterday's border inevitably becomes tomorrow's center.

But this trouble is a good trouble, and its goodness is perpetual mobility. It is thought that must psychically remain in the condition of crossing. The sooner we can make a shift to understanding that, the better our chances will be - before the borders become metaphors for everything existing, before they, no matter how porous, become another cage or a platform from which to speak to those who are quickly passing.

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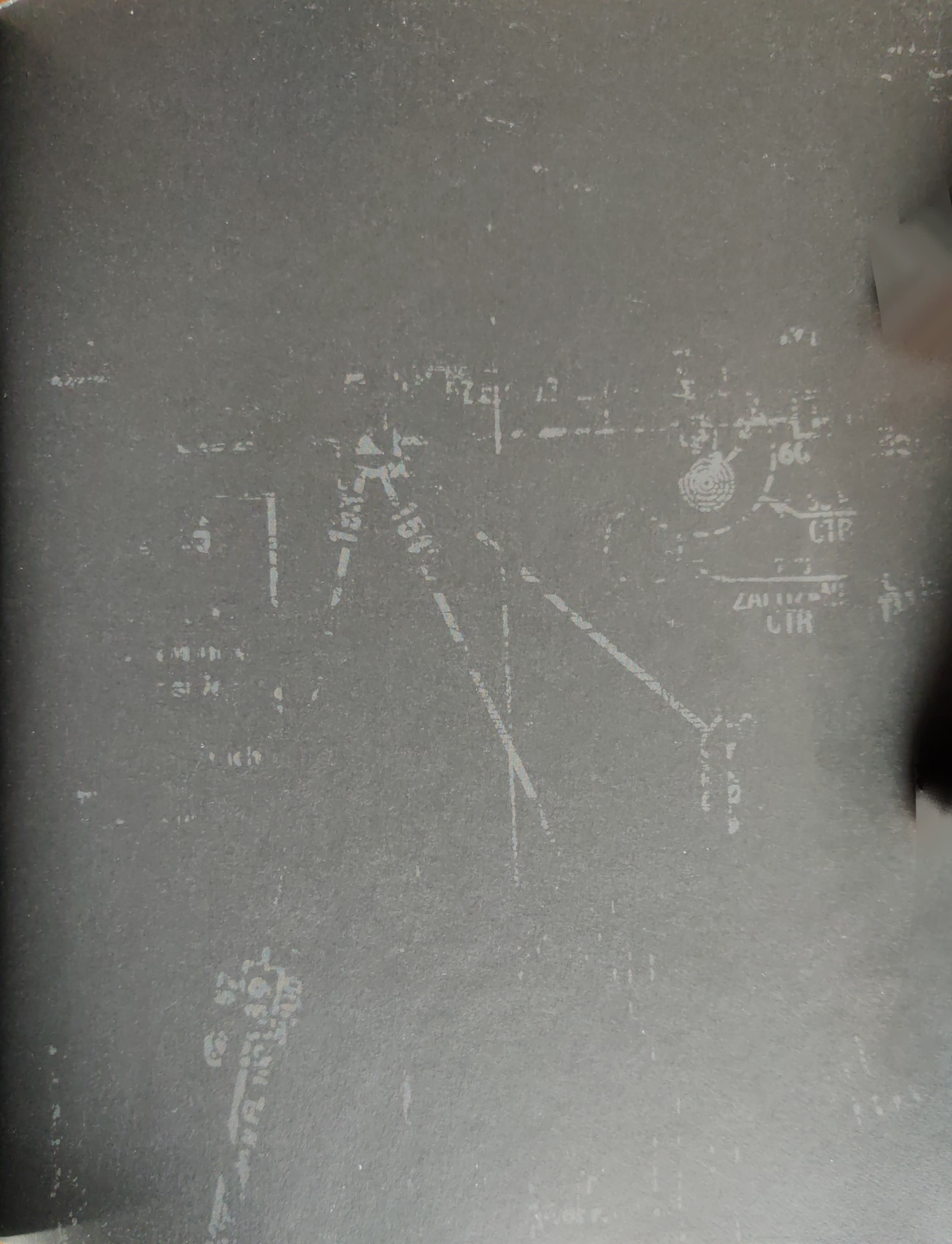
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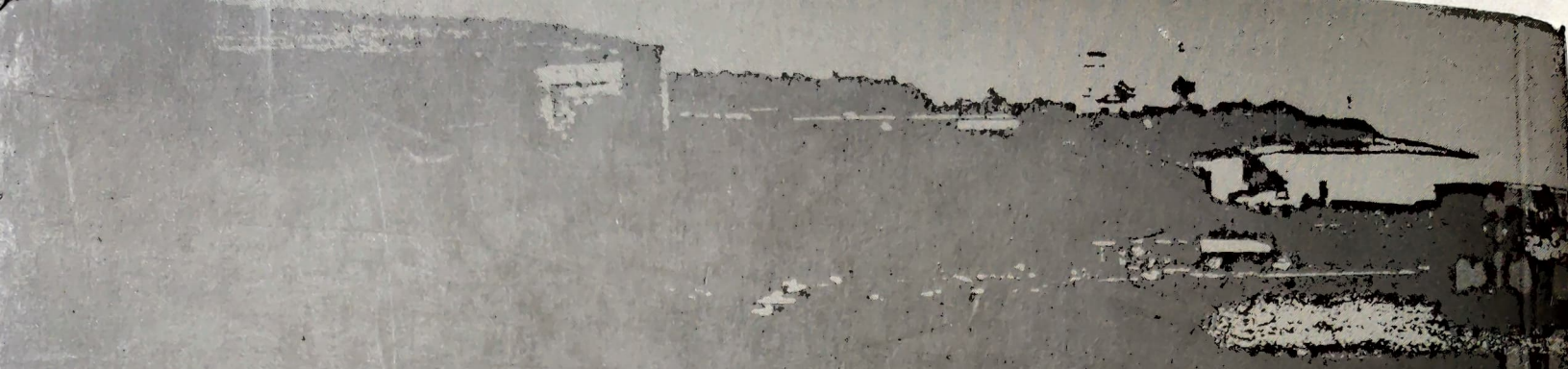
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